

INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

FOR

Grocery Outlet Store

City of Big Bear Lake, California

Prepared for:

Main & Main Capital Group, LLC
5750 Genesis Court, Suite 103
Frisco, TX 75034

Prepared by:



730 Sandhill Road, Suite 250
Reno, Nevada 89521

Lead Agency:



City of Big Bear Lake
39707 Big Bear Boulevard
P.O. Box 10000
Big Bear Lake, CA 92315

September 2020
Job Number: 20096

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CEQA ENVIRONMENTAL CHECKLIST

A. Background

1. Project Title:
Main & Main Big Bear Lake GOI
2. Lead Agency and Name and Address:
Main & Main Capital Group, LLC
5750 Genesis Ct, Suite 103
Frisco, TX 75034
3. Contact Person and Phone Number:
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dd@maincg.com
4. Project Location:
42175 Big Bear Boulevard
Big Bear Lake, CA 92315
5. Project Sponsor's Name and Address:
Main & Main Capital Group, LLC
5750 Genesis Ct, Suite 103
Frisco, TX 75034
6. General Plan Designation:
General Commercial
7. Zoning:
C-2: General Commercial
8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)
Development of a 18,000-square-foot discount supermarket along with associated paving necessary for vehicular circulation, access, and 60-off street parking spaces, plus exterior landscaping and lighting. The project will consolidate two parcels east of Big Bear Boulevard into a single parcel totaling 2.93-acres (refer to Figure 1 - Proposed Site Plan).
9. Surrounding land uses and setting: Briefly describe the project's surroundings:
The proposed development is bordered by Big Bear Boulevard (CA-18) along the west side from north to south, the northeast corner is adjacent to a commercially zoned property (refer to Figure 2 - Vicinity Map). On the south side of the east property line the proposed development is bordered by two single-family residential parcels and at the southeast corner of the site, as

the property line runs south, the property is adjacent to another commercially zoned property (refer to Figures 2 & 3 - City of Big Bear Lake General Plan Land Use Map and Zoning Map).

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.).

City of Big Bear Lake Conditional Use Permit (CUP) for alcohol sales, City of Big Bear Lake Plot Plan Review, City of Big Bear Lake Tree Removal Permit, City of Big Bear Lake Sign Review, San Bernardino County Building Permits, San Bernardino County Demolition Permit, San Bernardino County Conditional Utility Work Authorization Permit, San Bernardino County Notice of Service Connection, San Bernardino County Best Management Practice (BMP) Acknowledgement, San Bernardino County Excavation Permit, Caltrans Encroachment Permit

11. Have California Native American Tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code Section 5097.96 and the California Historical Resources Information System administered by the California Office of historic Preservation. Please also note that Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality.

CRM TECH conducted a review of this project, the Historical/Archaeological Resources Survey Report is included as Appendix C. The site has not been identified as either a site, place, sacred place, cultural landscape, feature, or object with cultural value to a California Native American Tribe. However, unanticipated or accidental discovery of California Native American tribal cultural resources are possible during the project implementation, most notably excavation, and have the potential to impact unique cultural resources.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| ☐ Aesthetics | ☐ Agriculture & Forestry Resources | ☐ Air Quality |
| ☐ Biological Resources | ☐ Cultural Resources | ☐ Geology/Soils |
| ☐ Greenhouse Gas Emissions | ☐ Hazards & Hazardous Materials | ☐ Hydrology/Water Quality |
| ☐ Land Use/Planning | ☐ Mineral Resources | ☐ Noise |
| ☐ Population/Housing | ☐ Public Services | ☐ Recreation |
| ☐ Transportation/Traffic | ☐ Tribal Cultural Resources | ☐ Utilities/Service Systems |
| ☐ Mandatory Findings of Significance | | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect
 - 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and
 - 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Signature

Date

I. AESTHETICS.

Would the project:

a) Have a substantial adverse effect on a scenic vista?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

A scenic vista is a viewpoint providing panoramic or expansive views of highly valued landscape for the benefit of the public. The proposed building will be one story tall and set back from Big Bear Boulevard (CA-18) by 132.86 lineal feet. The setback will have evergreen landscaping provided along the property's frontage to CA-18. The 18,000-square foot store, with heights of up to 32' will not impede views of neighbors to the east that have properties facing Big Bear Lake. The building will be consistent in scale to the existing commercial development to the south. Earthtone paint colors and natural façade material have been selected to complement the project with its environmental setting. For these reasons, the project would have no impact on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

CA-18 is eligible for scenic highway designation and the project property is located within the designated section (post mile R17.7 to 73.8), as listed on the Caltrans Website. The native, mature pine trees and rock outcroppings on the site will be removed as necessary. However, the site is opposite of Big Bear Lake from CA-18 and the existing landscape will remain wherever possible with new mature screening evergreen and conifer trees and shrubs along the frontage of the property. Therefore, the impact would be less than significant.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project would result in the construction of a new 18,000-square foot discount grocery store. Parking facilities are also proposed as a part of this design. The elements above may result in a change to the visual character of the property, however, the surrounding uses are predominantly commercial with some residential and the project is consistent with the existing general plan and commercial zoning land use designations. Therefore, the impact is less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project would result in a new building and parking area, both of which may result in an increase of light and glare. Potential sources of light and glare include external building lighting, parking lot lighting, an illuminated sign, security lighting, building windows, and reflective building materials. The new light sources may contribute to nighttime light pollution and result in impacts to nighttime views in the area.

The project would meet Big Bear Lake, California – Code of Ordinances, Chapter 17.12 – Signs standards, requiring that all new lighting shall be required to be shielded and directed so as not to allow light to penetrate off-site. The lights would be LED and designed not to trespass off the property.

The proposed building would be painted in a manner that precludes bare metal surfaces and the roof constructed of non-reflective material. The proposed windows are limited and scattered, design would reduce the potential for window glare.

Adherence to Big Bear Lake, California – Code of Ordinances, Chapter 17.35 – Commercial and Public Zones would ensure that the project would be constructed to the City of Big Bear Lake standards. The project will be required to obtain a building permit and approval from governing bodies prior to installation of such facilities. The impact would be less than significant.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The San Bernardino County FMMP map describes the area as unmapped. The site contains mountainous terrain and native trees and is not desirable land for farming use, therefore the proposed project would not result in the loss of Important Farmland as defined by the California Department of Conservation. No impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project site is not under a Williamson Contract nor are adjacent properties. Additionally, the site is zoned C-2 with a general commercial general plan designation. As such, the project would not conflict with any existing Williamson Act contract lands. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public resources Code section 4526), or timberland zoned Timberland Production (as defined by government Code section 51104(g))?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project site is located within the limits of San Bernardino National Forest. While the site does contain forest resources (mature, native trees), it is not zoned for forest use. No impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project site is located within the limits of San Bernardino National Forest. While the site does contain forest resources (mature native pine trees), it is not zoned for forest use. A less than significant impact would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The California Department of Conservation has not identified the project site and its surrounding land as farmland type. The area is located within the limits of San Bernardino National Forest but the property is not zoned for forest use. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project is located within the South Coast Air Basin (SCAB) limits, which includes Los Angeles, Orange, Riverside and San Bernardino counties. In

accordance with Big Bear Lake, California – Code of Ordinances, Chapter 17.01.090 – General performance standards, no emissions shall be permitted which exceed the requirements of the South Coast Air Quality Management District. San Bernardino County is currently identified as being in nonattainment for exceeding state criteria pollutant levels for particulate matter. Since the implementation of the project would not exceed the significance thresholds listed in Appendix A and comply with all applicable air quality plans, no impact would occur.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

As noted above, San Bernardino and all counties with the SCAB are in nonattainment for state air quality standards. Implementation of the project would result in air quality impacts during construction and operation. While some particulate matter could be generated as a result of construction activities, mitigation measure MM AQ-1 would be followed to address dust control measures consistent with SCAB recommendations to reduce the impact to less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The section of San Bernardino County where the City of Big Bear Lake is located (a part of SCAB) is currently identified as being in nonattainment for ozone and all particulate matter. The project's implementation would contribute to an increase of criteria pollutants, but since the implementation of the project will not exceed the significance thresholds listed in Appendix A, a less than significant impact would occur.

d) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Sensitive receptors are defined as facilities or land uses occupied by members of the population that are sensitive to the effects of air pollutants. Examples would include but are not limited to schools, hospitals, and daycare centers. The CARB has identified the following groups as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases. The nearest sensitive receptor to the site would be private residences across CA-18, west of the property.

The project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day. The nearest sensitive receptors might be neighboring residences, however, the distance between the proposed project and these homes is approximately 130 feet (across CA-18) and would be screened and buffered by new trees.

Airborne entrainment of asbestos is another potential air quality issue associated with construction-related activities. However, according to the California Department of Conservation (DOC) the project area is not located within an area likely to contain naturally-occurring asbestos. Therefore, the impact would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

Odors rarely cause any physical harm but they can lead to unpleasant which can cause considerable distress among the public. In turn, citizens file complaints with local governments and regulatory agencies. Odor impacts on residential areas and other sensitive receptors, such as daycare centers and schools, are of particular concern. The project may result in temporary, centralized odors associated with diesel-powered equipment during construction. These odors would be temporary and would not be in sufficiently high concentrations to affect nearby land uses. Dust control measures will be taken during construction to reduce short-term emissions and the airborne entrainment of asbestos. The impact is less than significant with mitigation.

Mitigation Measures:

AQ-1: The following dust control measures shall be incorporated into the project to reduce short-term emissions resulting from construction. Depending on weather and site conditions, measures shall include, but are not limited to, the following:

1. Use regular watering to control dust generation as described below.
2. When transporting soil and other dust-generating materials by truck during construction activities, cover materials and/or maintain 2 feet of freeboard.

3. Was or wet-sweep paved streets adjacent to construction sites as necessary to remove accumulated dust.

4. During earth-moving operations, conduct watering as necessary to prevent visible emissions from extending beyond active areas.

5. Water all unpaved roads used for any vehicular traffic at least once per every two hours of active operations and restrict vehicle speed on unpaved roads to 15 miles per hour (mph), or as appropriate to reduce dust.

6. Pave, maintain a wet surface, or apply dust suppressants on all unpaved access roads, parking areas, and staging areas.

7. Suspend land clearing, grading, earth-moving, or excavation activities when winds exceed 20 miles per hour.

8. Cover inactive storage piles of topsoil or landscape materials.

9. Post a publicly visible sign with the number and person to contact regarding dust complaints. This person shall have the authority and responsibility to respond and take corrective action within 24 hours.

10. No temporary asphalt or concrete batch plants will be allowed to operate on-site.

11. Construction staging areas should be located at a distance that would reduce odors and dust emissions from existing schools and residential area.

Timing/Implementation: During Construction Activities

Monitoring/Enforcement: South Coast Air Quality Management District, City of Big Bear Lake Building & Safety Department

IV. BIOLOGICAL RESOURCES:

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Potentially
Significant
Impact

Less Than
Significant
with Mitigation
Incorporated

Less Than
Significant
Impact

No
Impact

☐☒☐☐

The habitat supports common native wildlife species that would be affected by the construction of the project. This would include common species of reptiles, birds, and small mammals. More mobile wildlife species, such as birds and larger mammals that utilize the affected area will be displaced during clearing activities to adjacent areas. These animals may move to open

adjacent properties. Less mobile species could be lost during the clearing and grading. Construction of the project is taking place in previously disturbed areas on the site. Under current field conditions, no endangered or threatened species would be lost from implementation of this project. Anticipated impacts to most wildlife species would be relatively minor, for the following reason: the majority of the project area is previously disturbed by anthropogenic activities.

The June 6, 2020 BRA by Gonzales Environmental Consulting, LLC (included as Appendix B) conducted a site assessment for identification of sensitive species known to locally occur. Attention was focused on the State or Federally list as threatened or endangered species and California Fully Protected species:

- Ash-gray paintbrush (*Castilleja cinerea*)
- Big Bear Valley milk-vetch (*Astragalus lentiginosus* var. *sierrae*)
- Big Bear Valley phlox (*Phlox dolichantha*)
- Big Bear Valley sandwort (*Eremogone ursina*)
- Parish's yampah (*Perideridia parishii* ssp. *parishii*)
- San Bernardino Mountains bladderpod (*Physaria kingie* ssp. *bernardina*)
- San Bernardino Mountains dudleya (*Dudleya abramsii* ssp. *affinis*)
- Lodgepole chipmunk (*Neotamias speciosus speciosus*)
- Southern rubber boa (*Charina umbratica*)

In addition to the above listed species, the site was surveyed for its potential suitability to support San Bernardino flying squirrel (*Glaucomys sabrinus californicus*). Although not a state- or federally-listed species, San Bernardino flying squirrel are a CDFW Species of Special Concern and are considered a particularly sensitive species within the region. The site consists of habitat characterized as disturbed, *Ericameria nauseosa* (Rubber rabbitbrush scrub) Alliance, landscape and *Pinus ponderosa* (Ponderosa pine forest) Alliance. The locations of the native plant communities within the project footprint have been impacted by anthropogenic activities in the area, and aside from boulder areas, consists of compacted disturbed areas. The disturbed vegetation on the project site (site) and its history of anthropogenic disturbances likely limit its value to native plant and animal species.

The BRA found two Birds of Conservation Concern present: hepatic tanager (*Piranga flava*) and Nuttall's woodpecker (*Picoides nuttallii*). The site has the potential to support a few special-status species including species absent but which have appropriate conditions to be present include: Big Bear Valley woollypod (*Astragalus leucolobus*), Parish's rockcress (*Boechera parishii*), and Pine fritillary (*Fritillaria pinetorum*), Lawrence's Goldfinch (*Carduelis lawrencei*), and white-headed woodpecker (*Picaides albolarvatus*). Species with moderate potential to occur: southern rubber boa (*Charina umbratica*), large-blotched salamander (*Ensatina eschscholtzii klauberi*), lodgepole chipmunk (*Neotamias speciosus speciosus*), long-legged myotis (*Myotis volans*) and San Bernardino flying squirrel (*Glaucomys oregonensis californicus*). Species with low potential to occur: Ash-gray paintbrush (*Castilleja cinerea*), Big Bear Valley milk-vetch (*Astragalus lentiginosus* var. *sierra*), San Jacinto Mountains daisy (*Erigeron breweri* var. *jacintus*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*),

California spotted owl (*Strix occidentalis occidentalis*), Cooper's hawk (*Accipiter cooperii*), Costa's Hummingbird (*Calypte costae*), Common Yellowthroat (*Geothlypis trichas sinuosa*), song sparrow (*Melospiza melodia*), and Rufous Hummingbird (*Selasphorus rufus*), Townsend's big-eared bat (*Corynorhinus townsendii*) and Crotch bumble bee (*Bombus crotchii*). Habitat Assessment surveys were conducted in May and June, 2020 and found no signs of the above mentioned species using the proposed project site or the zone of influence.

There will be a less than significant impact following the BRA mitigation measures (Appendix B).

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The site does not have a riparian corridor and its associated habitat. No impact would occur.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, costal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The site contains no federally protected wetlands or wetland ecosystems. There would be no impact.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

According to the BRA (Appendix B) assessment the site is located adjacent to an existing development area to the south, CA-18 to the

west, undeveloped land to the east, and single family residential to the north.

There is open land to the east but wildlife that enters from the east would need to exit the same way, therefore the site does not naturally function as a wildlife corridor. With large areas of open land in the surrounding limits of Big Bear Lake, California and the San Bernardino National Forest, construction of the project would not impede migratory wildlife. The project would have no impact on wildlife movement.

e) Conflict with any policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The proposed project would be subject to the submittal of a tree removal permit granted by the City of Big Bear Lake. The proposed project would comply with the City's tree removal policies, therefore the impact would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

There are no habitat conservation plans subject to the project area. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

V. CULTURAL RESOURCES. Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

The residence at 42175 Big Bear Boulevard is known to be historical in origin but does not appear to meet the statutory definition of a "historical resource," as provided by CEQA. The significance of the prehistoric cultural remains recorded at the site cannot be determined without further archaeological investigations. Based on the findings of the historical/archaeological resources survey report (Appendix C), the project would have a less than significant impact with mitigation measure MM CUL-1 incorporated. Further recommended mitigation measures are detailed in Appendix C.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

The site investigation performed shows that there is a relatively low potential for the presence of prehistoric cultural resources on the project site. There is no available information to indicate that archaeological sites are present on the property; however, the site has not been surveyed by archaeologists who meet the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology. Mitigation measure MM CUL-1 addresses the potential for the discovery of any unrecorded or previously unknown archaeological resources. With implementation of this mitigation, impacts would be less than significant.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

No known paleontological resources exist within the project area. Regardless, unanticipated and accidental discoveries are possible, most notably during excavation, and have the potential to impact said resources. Mitigation measure CUL-2 would be followed to address the impacts to a less than significant level.

d) Disturb any human remains, including those interred outside of dedicated cemeteries?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

If buried remains are discovered during earth-moving operations anywhere within the project area, all work should be halted immediately within 50 feet of the discovery and the city as well as the county coroner must be notified. There will be a less than significant impact with mitigation measure CUL-3 incorporated.

Mitigation Measures:

CUL-1: If, during the course of project construction and/or operations, cultural resources (i.e., prehistoric sites, historic features, isolated artifacts, and features such as concentrations of shell or glass) are discovered, work shall be halted immediately within 50 feet of the discovery, the City of Big Bear Lake Public Works Department shall be immediately notified, and a professional archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. The City shall consider mitigation recommendations presented by a professional archaeologist and implement a measure or measures that the City deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: During Ground-disturbing construction activities
Monitoring/Enforcement: Gonzales Environmental Consulting, LLC

CUL-2: If subsurface deposits believed to be of paleontological significance are discovered during construction, all work must halt within a 50-foot radius of the discovery. An on-site paleontological monitor, meeting the Secretary of the Interior's Professional Qualification Standards for paleontology, shall be retained by the project applicant and shall be afforded a reasonable amount of time to evaluate the significance of the find. Work cannot continue at the discovery site until the paleontologist conducts sufficient research and data collection to make a determination that the resource is either (1) not a paleontological resource or (2) not potentially significant. If a potentially eligible resource is encountered, the paleontologist, lead agency, and project applicant shall arrange for either (1) total avoidance of the resource, if possible, or (2) test excavations to evaluate eligibility and, if eligible, total data recovery as mitigation. The determination shall be formally documented in writing and

submitted to the City, as verification that the provisions in CEQA for managing unanticipated discoveries have been met.

Timing/Implementation: During Ground-disturbing construction activities
Monitoring/Enforcement: Gonzales Environmental Consulting, LLC

CUL-3: If, during the course of project implementation, human remains are discovered, all work shall be halted immediately within 50 feet of the discovery, the City of Big Bear Lake Public Works Department shall be immediately notified, and the County Coroner must be notified, according to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in California Code of Regulations Section 15064.5(d) and (e) shall be followed.

Timing/Implementation: During Ground-disturbing construction activities
Monitoring/Enforcement: Gonzales Environmental Consulting, LLC

VI. GEOLOGY AND SOILS. Would the project:

a) Expose people or structures to potential substantial effects, including the risk of loss, injury, or death involving:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

i) Rupture of an known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. There are no known active or potentially active faults in or adjacent to the City of Big Bear Lake. The closest mapped fault to the project area is 7 miles to the north (refer to Figure 5 – U.S. Geological Survey Quaternary Faults Map). There would be no related impact to fault rupture.

ii) Strong seismic ground shaking?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project site area, as with all sites in California, is subject to minor ground shaking as a result of earthquakes. However, the project is not within a currently established State of California Earthquake Fault Zone for surface fault rupture hazards. No active faults with the potential for surface fault rupture are known to pass in the vicinity of the site. Compliance with the California Building Code (CBC) and all city requirements pertaining to building safety design standards could reduce the potential impacts associated with fault rupture and ground shaking to less than significant levels.

iii) Seismic-related ground failure, including liquefaction?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Liquefaction occurs when loose sand and silt that is saturated with water behaves like a liquid when subjected to horizontal loading (i.e. an earthquake). Liquefaction can result in the following types of ground failure:

- Lateral spreading: Soils slide down gentle slopes or toward stream banks.
- Loss of bearing strength: Soils liquefy and lose the ability to support structures.
- Settlement: Settling of ground surface as soil reconsolidates.
- Ground Oscillation: Surface soils, riding on a buried liquefied layer, are thrown back and forth by shaking.
- Flow failures: Soils move down steep slopes with large displacement.
- Flotation: Floating of light buried structures to the surface.
- Subsidence: Compaction of soil and sediment.

Three factors are required for liquefaction to occur: loose, granular sediment, saturation of the sediment by groundwater, and strong shaking. According to the Geotech Report prepared by The Dirt Guys on June 1, 2020, included as Appendix D, the site is not located in a State of California Liquefaction Hazard Zone. Furthermore, the building foundations will either be supported by bedrock or by compacted fill supported by bedrock. For the reasons previously stated, the impact is less than significant.

iv) Landslides?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project site slopes from east to west, with mild slopes averaging eight percent. Implementation of the project would require walls in some locations to prevent slope degradation and erosion of built-up, compacted soil. The impact would be less than significant when following the recommendations outlined in Appendix D.

b) Result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Construction activities would disturb soils and potentially expose them to wind and water erosion. However, with the application of standard construction practices and regulatory requirements, soil erosion and loss of topsoil would not be of concern. The preparation of a NDPE Stormwater Pollution Prevention Plan (SWPPP) identifies Best Management Practices (BMPs) to be implemented on the site to minimize soil erosion and protect local waterways and existing drainage systems. Compliance with the State's General Construction Water Permit would reduce this impact to a level of less than significant.

c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The potential for landslides was determined to be no impact with mitigation measures taken. The mitigation measures would be incorporated within the design of the site in its entirety. The potential for liquefaction and related ground failure or collapse was determined to be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Expansive or shrink-swell soils are soils that swell when subjected to moisture and shrink when dry. Expansive soils typically contain clay minerals that attract and absorb water, increasing the volume of the soil. The increase in volume can cause damage to foundations, structures, and roadways. The standard procedures used in the construction of concrete footings as required by the CBC will reduce this potential impact. The potential for expansive soils to affect this project is less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project will connect to the City's wastewater collection and treatment plant. The project would not use a septic system or other wastewater disposal system, therefore no impact would be involved.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

VII. GREENHOUSE GAS EMISSIONS. Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

In accordance with Big Bear Lake, California – Code of Ordinances, Chapter 17.01.090 – General performance standards, no emissions shall be permitted which exceed the requirements of the South Coast Air Quality Management District. San Bernardino County is currently identified as being in

nonattainment for exceeding state criteria pollutant levels for particulate matter. Implementation of the project would result in air quality impacts during construction and operation. While some particulate matter could be generated as a result of construction activities, mitigation measure MM AQ-1 would be followed to address dust control measures consistent with SCAB recommendations. Since the implementation of the project would not exceed the significance thresholds listed in Appendix A and comply with all applicable air quality plans. The impact would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project would not conflict with any adopted plans, policies, or regulations implemented to reduce GHG emissions. Project-generated GHG emissions would not surpass GHG significance thresholds, therefore no impact would occur.

Mitigation Measures:

AQ-1: The following dust control measures shall be incorporated into the project to reduce short-term emissions resulting from construction. Depending on weather and site conditions, measures shall include, but are not limited to, the following:

1. Use regular watering to control dust generation as described below.
2. When transporting soil and other dust-generating materials by truck during construction activities, cover materials and/or maintain 2 feet of freeboard.
3. Water or wet-sweep paved streets adjacent to construction sites as necessary to remove accumulated dust.
4. During earth-moving operations, conduct watering as necessary to prevent visible emissions from extending beyond active areas.
5. Water all unpaved roads used for any vehicular traffic at least once per every two hours of active operations and restrict vehicle speed on unpaved roads to 15 miles per hour (mph), or as appropriate to reduce dust.
6. Pave, maintain a wet surface, or apply dust suppressants on all unpaved access roads, parking areas, and staging areas.
7. Suspend land clearing, grading, earth-moving, or excavation activities when winds exceed 20 miles per hour.

8.Cover inactive storage piles of topsoil or landscape materials.

9.Post a publicly visible sign with the number and person to contact regarding dust complaints. This person shall have the authority and responsibility to respond and take corrective action within 24 hours.

10.No temporary asphalt or concrete batch plants will be allowed to operate on-site.

11.Construction staging areas should be located at a distance that would reduce odors and dust emissions form existing schools and residential area.

Timing/Implementation: During Construction Activities

Monitoring/Enforcement: South Coast Air Quality Management District, City of Big Bear Lake Building & Safety Department

VIII. HAZARD AND HAZARDOUS MATERIALS. Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The proposed project would not create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials. Grocery Outlet retail stores do not generate significant amounts of hazardous materials, and only a minimal amount of routine day-to-day materials are going to be stored on-site, such as materials used in the routine cleaning of the building or maintenance of landscaping. Said materials would be used, stored, and disposed in accordance with existing regulations and product labeling and would not create a significant hazard to the public or the environment. The impact would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

During construction, although unlikely, a potential release of hazardous materials could occur. Releases would most likely be spillages of motor vehicle fuels and oils. However, with the application of standard construction practices, BMPs and regulatory requirements, the effects of such spills would be minimized. Furthermore and as previously stated, stores of

this nature do not generate a significant amount of hazardous materials, only a minimal amount of routine day-to-day materials are stored on site. A less than significant impact would occur.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project is located approximately 0.5 miles from North Shore Elementary School. There is not a school existing or proposed within one-quarter mile of the proposed project, no impact would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

In accordance with Government Code Section 65962.5, both the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of each of the lists identified no cases of hazardous waste violations. Therefore, the proposed project is not on land included on a list of hazardous materials sites compiled pursuant to GCS 65962.5. Construction of the project would not create a significant hazard to the public or environment and would have no impact.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The nearest airport to the proposed project site is Big Bear Airport, a public-use airport located 1.25 miles northeast of the project site. Considering the airport is a low-volume, public-use airport the impact would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project site is not located within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project area. No impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project would not obstruct evacuation routes or access to critical emergency facilities. No impact would occur.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Although there is potential for wildland fires given the arid summer climate, characterized by warm days and westerly wind, the project site is located in a commercially zoned corridor of CA-18. Therefore the impact would be less than significant.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

IX. HYDROLOGY AND WATER QUALITY.

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Potentially
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Less Than
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with Mitigation
Incorporated

Less Than
Significant
Impact

No
Impact

☐☐☐☒

The project will comply with all adopted plans for water quality and waste discharge standards. There would be no impact.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

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No
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The project will be connected to City domestic water service and will not deplete groundwater supplies. The project will have landscaped bioswales to improve recharge. The impact would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion on or off-site?

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No
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The project will not alter any river or stream courses because these features are not present at the site. No impact.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project will not alter any river or stream courses because these features are not present at the site. No impact.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project would alter the existing drainage patterns on the site by adding impervious surfaces to portions that were once permeable. The added impervious surfaces decrease the time of concentration for stormwater, increasing the rate of runoff, resulting in a high potential for erosion. However, the project would include water quality (detention/retention) basins with the site designed to capture all stormwater from the project and therefore prevent the of project stormwater flows into any waterways. The impact regarding flooding on or off-site would be less than significant.

f) Otherwise substantially degrade water quality?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The proposed discount grocery store project use as designed will not substantially degrade water quality. Less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

No housing is proposed for the project. No impact would occur in this area.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

As mapped by the FEMA (2020) National Flood Hazard Layer, the project site is within Flood Zone X, indicating that the site is out of the 100-year flood hazard area and is an area of minimal flood hazard. Flood Zone X includes area outside the Special Flood Hazard Area (SFHA) and higher than the elevation of the 0.2-percent-annual-chance flood (FIRM Map 06071C7295H) refer to Figure 6. The proposed project would have no impact related to flooding.

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project site is located approximately 3.5 miles east of the Cedar Lake 802 Dam. Failure of the dam would not affect the site therefore no impact would occur.

j) Inundation by seiche, tsunami, or mudflow?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project site is not located near the Pacific Ocean. Big Bear Lake is not at risk for tsunami or mudflow but the lake could possibly experience seiching. According to the City of Big Bear Lake's General Plan, the June 28, 1992 Big Bear Earthquake had reports of surface disturbance of several inches yet no flood damage was reported. The project site is located east, approximately 800 feet, from the Lake's shoreline with CA-18 located in between. For the above reasons the impact would be less than significant.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

X. LAND USE AND PLANNING. Would the project:

a) Physically divide an established community?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project site is located in an area of the city of Big Bear Lake where existing commercial development is present. While there are undeveloped land and open space in the project site vicinity, the land uses are designated for general commercial or residential development. Implementation of the project would not divide an established community and therefore no impact would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project would not conflict with applicable plans that have jurisdiction over the project area. The project is consistent with the City's General Plan and Zoning Map so no impact would occur.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Potentially
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Less Than
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No
Impact

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There are no conservation plans subject to the project area. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XI. MINERAL RESOURCES. Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Potentially
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with Mitigation
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No
Impact

☐☐☐☒

The project would not result in the loss of an available mineral resource that would be of value to the region or residents of the state. No impact would occur.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Potentially
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No
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☐☐☐☒

There are no locally important mineral resource recovery sites within the project area. There is a hole in the site along the east PL that leads to a bunker. Appendix F is included for reference that the bunker has no mining significance. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XII NOISE. Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Noise levels generally acceptable to everyone are difficult to quantify, as one individual may be disturbed by a noise while unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population. The proposed hours of operation for the site once the project is completed will be 8:00 A.M. to 9:00 P.M.. The project would have a less than significant impact.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Construction of the proposed project has the potential to result in temporary groundborne vibration. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Since the City does not establish vibration thresholds, Caltran's recommended standard of 0.2 inches per second (in/sec) peak particle velocity (PPV) with respect to the prevention of structural damage for normal buildings. This is also the level at which vibrations may begin to annoy people in buildings. The nearest off-site structures to the project include commercial buildings adjacent to the southern boundary of the site approximately five lineal feet away. For vibration to travel this distance it is unlikely there will be any impact.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The main source of operational noise impacts as a result of the project would be an increase in vehicular traffic. On peak days, the project is expected to result in an additional 1,240 average daily trips (ADT). According to Caltrans 2016 Traffic Volumes, the segment of CA-18 that traverses the project site accommodates an annual average of 23,000 vehicle trips daily. According to the Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol, a increase to the traffic volume by a factor of two would result in an increase of 3 dB, an increase that would be nearly impossible to notice. Since the project's increase would not double the traffic on CA-18 and not result in a perceptible increase in traffic noise levels, a less than significant impact would occur.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The project would adhere to the allowed construction hours noted in the City of Big Bear Lake's Code of Ordinances (which are 7:00 a.m. to 7:00 p.m., Monday through Friday). Also in reviewing the General Plan this project would not exceed the noise standards. Therefore, the noise generated during construction activities would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

Big Bear Airport is the nearest airport to the site and is 1.25 miles northeast of the project site. Since the project is within 2 miles of a public use airport, the project would have a less than significant impact with mitigation incorporated.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

There are no private airstrips within the vicinity of the project site. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XIII. POPULATION AND HOUSING. Would the project:

a) Include substantial population growth in an aream either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The proposed project does not include the construction of new residential buildings, however the construction of the proposed retail discount grocery store could create 40 new jobs in the region. While the addition of these new jobs could increase the City's population, it is anticipated that the majority of new employees would be from existing residents of the region. Therefore, the implementation of the project is unlikely to result in demand for new housing and the impact would be less than significant.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project area has been a residence for at least the past 40 years. However, the property is zoned C2: general commercial. The removal of one residential structure does not necessitate the construction of any replacement housing so no impact is anticipated.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The current owner of the property has plans to relocate upon approval of this project, therefore the impact would be less than significant.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XIV. PUBLIC SERVICES.

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Fire Protection

The project requires fire protection services to respond to any potential incidents that may occur at the site. However, the project is located on a developed portion of the CA-18 corridor that traverses through the City of Big Bear Lake that currently receives fire service. While the new commercial building could potentially require fire service, it would not result in the need for new fire personnel or facilities, as the existing services could adequately be provided. The impact would be less than significant.

Police Protection

The project requires police protection services to respond to any potential incidents that may occur at the site. However, the project is located on a developed portion of the CA-18 corridor that traverses through the City of Big Bear Lake that currently receives police service. While the new commercial building could potentially require police services, it would not result in the need for new police personnel or facilities, as the existing services could adequately be provided. The impact would be less than significant.

Schools

The project does not propose any housing or other factors that would result in an increased demand for schools. Therefore, there would be

no need for additional facilities to maintain acceptable service ratios for schools and no impact would occur.

Parks

The project does not include any housing or population that would require additional recreational facilities, nor does the project include any components that would result in an increased demand for parks. Therefore, there would be no need for additional facilities to maintain acceptable service ratios and no impact would occur.

Other Public Facilities

The project does not include any housing or population that would require additional public services. Therefore, there would be no need for additional facilities to maintain acceptable service ratios and no impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XV. RECREATION.

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project would not result in the construction of any new residential buildings, so the use of existing parks and other recreational facilities would not be increased that necessitate new or expanded facilities. No impact would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project would not result in the construction of any new recreational facilities. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XVI. TRANSPORTATION/TRAFFIC. Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

According to the Caltrans 2016 Traffic Volumes, the section of CA-18 that traverses the project site accommodates an average of 23,000 vehicle trips daily. On average, the project is expected to result in an additional 1,922 ADT.

From the Traffic Impact Analysis prepared by KD Anderson & Associates, Inc., included as Appendix E, the implementation of the project, including two full-access driveways and additional trip generation, would not conflict with the current performance of the circulation system. The impact would be less than significant.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

According to the TIA's recommendations (Appendix E), the proposed project's implementation would not require any specific improvements and that the project should contribute to implementation of long-term multimodal circulation by both paying traffic impact fees adopted by the City of Big Bear Lake and installing frontage improvements required by the City of Big Bear Lake. A less than significant impact would occur.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

Big Bear Airport, 1.25 miles northeast of the project site, is the nearest airport. However, there are no project components that would affect air traffic patterns; there would be no impact.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Meeting the requirements set forth from the TIA (Appendix E), the proposed project's implementation would require on-site grading/excavation to remove topography that lies within the line of sight under Caltrans standards. The impact would be less than significant.

e) Result in inadequate emergency access?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project would have adequate access for emergency vehicles. The Big Bear Fire Department and San Bernardino County Sheriff's Department will review the proposed site plan and, upon approval, there would be no impact with the project's implementation.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The proposed project would not conflict with adopted plans for alternative transportation and not have an impact on alternative transportation.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XVII. TRIBAL CULTURAL RESOURCES.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

The proposed project area contains no known cultural resources or significant archaeological resources. The site has not been identified as either a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe. Unanticipated or accidental discovery of California native American tribal cultural resources are possible during project implementation, most notably during excavation, and have the potential to impact unique cultural resources. Mitigation measure CUL-1 is included to reduce the potential for impacts to tribal cultural resources to a less than significant level.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☒	☐	☐

The proposed project area contains no known cultural resources or significant archaeological resources. The site has not been identified as either a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe. Unanticipated or accidental discovery of California native American tribal cultural resources are possible during project implementation, most notably during excavation, and have the potential to impact

unique cultural resources. Mitigation measure CUL-1 is included to reduce the potential for impacts to tribal cultural resources to a less than significant level.

Mitigation Measures:

CUL-1: If, during the course of project construction and/or operations, cultural resources (i.e., prehistoric sites, historic features, isolated artifacts, and features such as concentrations of shell or glass) are discovered, work shall be halted immediately within 50 feet of the discovery, the City of Big Bear Lake Public Works Department shall be immediately notified, and a professional archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. The City shall consider mitigation recommendations presented by a professional archaeologist and implement a measure or measures that the City deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: During Ground-disturbing construction activities
Monitoring/Enforcement: Gonzales Environmental Consulting, LLC

XVIII. UTILITIES AND SERVICE SYSTEMS. Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

Wastewater disposal is regulated under the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act. The project proposes to connect to the City's existing wastewater collection line located in Big Bear Boulevard (CA-18). Implementation of the proposed project would increase wastewater flows that would be collected at the Big Bear Area Regional Wastewater Agency (BBARWA). At the BBARWA, the current average daily intake is 2.2 million gallons-per-day while the sewage treatment plant capacity is 4.9 million gallons-per-day. The BBARWA uses effluent to irrigate alfalfa fields in Lucerne Valley and is currently able to dispose of all effluent and will continue to be able to do so with the implementation of the proposed project. No aspect of the project would exceed wastewater treatment requirement, a less than significant impact would occur.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

No new or expanded wastewater treatment facilities are needed for this project's implementation. No impact would occur.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

While the proposed project would increase the amount of impervious surfaces on the site resulting in increased stormwater runoff potential, the impact would be insignificant as there are sufficient pervious surfaces adjacent to the site. Also, the project includes two stoemwater detention basins. All stormwater collected from the parking lot and new building would flow into one of the two basins. The basins would be designed to detain all stormwater from the project, existing stormwater detention, retention, and conveyance systems would be unaffected. A less than significant impact would occur.

d) Have sufficient water supplies available to serve the project from the existing entitlements and resources, or are new or expanded entitlements needed?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

The City of Big Bear Lake provides domestic water supply and service through the City of Big Bear Lake Department of Water and Power (DWP). According to the City's Urban Water Management Plan (UWMP), the City's current (2015) water demand (volume of water supplied in 2015) is 2,095 ac-ft per year with a total right or safe yield of 3,100 ac-ft per year and the annual water demand is estimated to reach 2,494 ac-ft by 2040. The project site is within the existing service area and the utility provider has capacity to serve project demand. The proposed project would increase the volume supplied by an approximate 63 ac-ft per year. The project would implement water efficient refrigeration

and appliances and low water landscape with drip irrigation. The impact would be less than significant.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the provider's existing commitments?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☒	☐

See response (a) of this section. A less than significant impact would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The solid waste provider for the site is Big Bear Disposal, Inc.. The proposed project would implement separated waste streams for trash, recyclables (paper, cardboard, glass, and plastic), and compost. The site trash enclosure pad (18.5' x 26') is sized for a commercial dumpster. The waste facility can adequately serve project demand. No impact would occur.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
☐	☐	☐	☒

The project must comply with all local, state, and federal solid waste regulations. No impact would occur.

Mitigation Measures:

No significant impacts were identified, and no mitigation measures are required.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE.

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially
Significant
Impact

Less Than
Significant
with Mitigation
Incorporated

Less Than
Significant
Impact

No
Impact

☐

☒

☐

☐

Multiple subsections of this IS/MND have been identified for potentially significant impacts. However, with the implementation of the mitigation measures included in the relevant subsections, the potential impacts would be reduced to a level that is less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Potentially
Significant
Impact

Less Than
Significant
with Mitigation
Incorporated

Less Than
Significant
Impact

No
Impact

☐

☒

☐

☐

The proposed project has the potential to result in cumulative impacts to the physical environment, which include traffic, noise, and air quality. However, with the implementation of the mitigation measures included in the relevant subsections of this IS/MND, the project's potential impacts would be reduced to a level that is less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially
Significant
Impact

Less Than
Significant
with Mitigation
Incorporated

Less Than
Significant
Impact

No
Impact

☐

☒

☐

☐

With the implementation of the mitigation measures prescribed in this IS/MND, the project would not result in adverse impacts on the human environment.

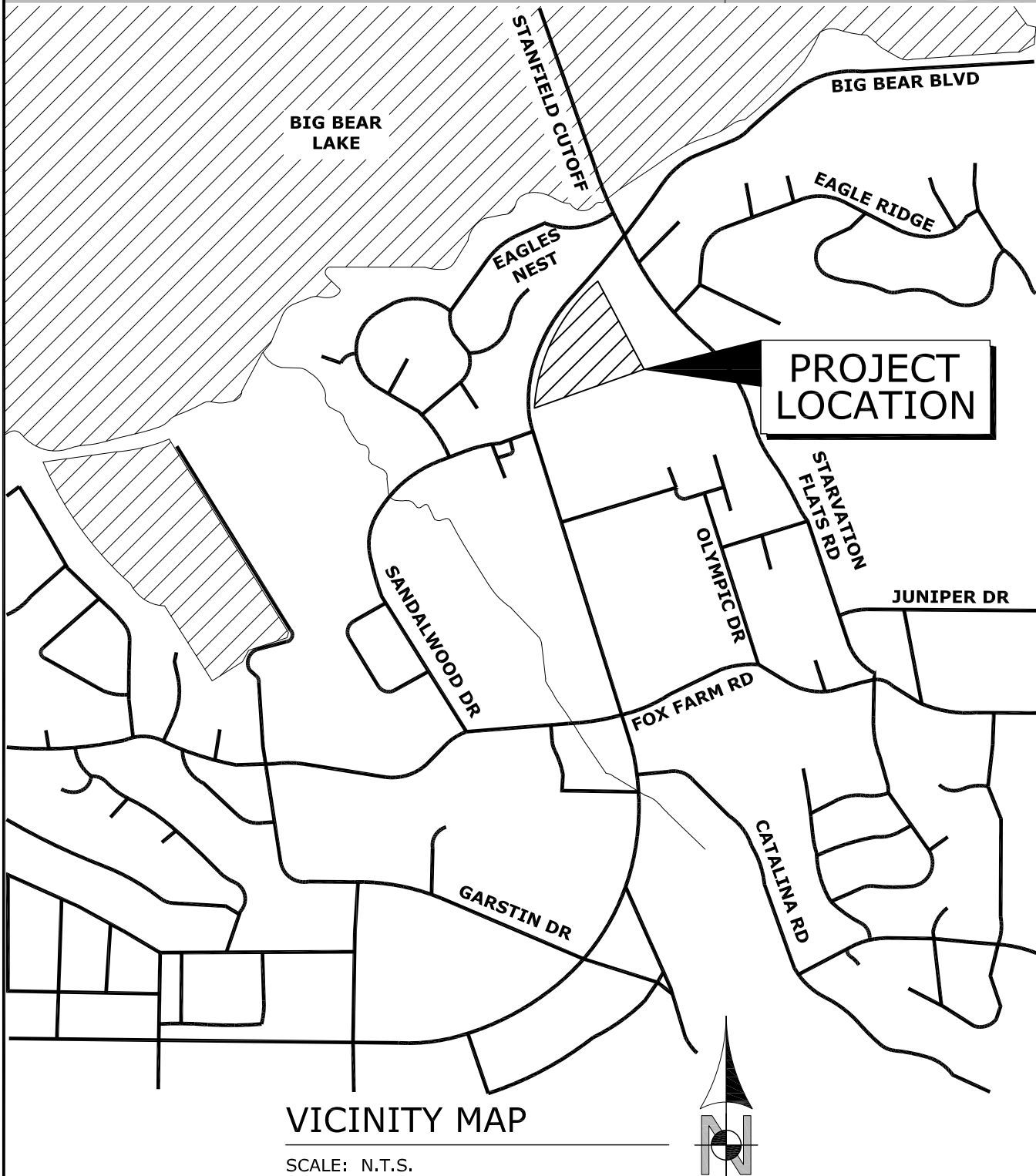
FIGURES

DRAWN: M.C.M.

DATE: 9/01/20

DESCRIPTION: VICINITY MAP: 42175 BIG BEAR BLVD, BIG BEAR LAKE, CA

SUBMITTAL: EX-1



PROJECT/CLIENT:

JOB #: 19167

GROCERY OUTLET
BIG BEAR LAKE, CALIFORNIA

MAIN & MAIN
5750 GENESIS CT SUITE 103, FRISCO, TX 75034

TECTONICS
DESIGN GROUP

730 Sandhill Road, Suite 250, Reno, NV 89521
www.tectonicsdesigngroup.com

tel 775-824-9988
fax 775-824-9986

CITY OF BIG BEAR LAKE

GENERAL PLAN LAND USE MAP

Adopted by City Council Resolution No. 99-36, August 23, 1999

General Plan Amendments:

City Council Resolution No 2000-11, May 8, 2000

Ordinance No. 2004-341, July 26, 2004

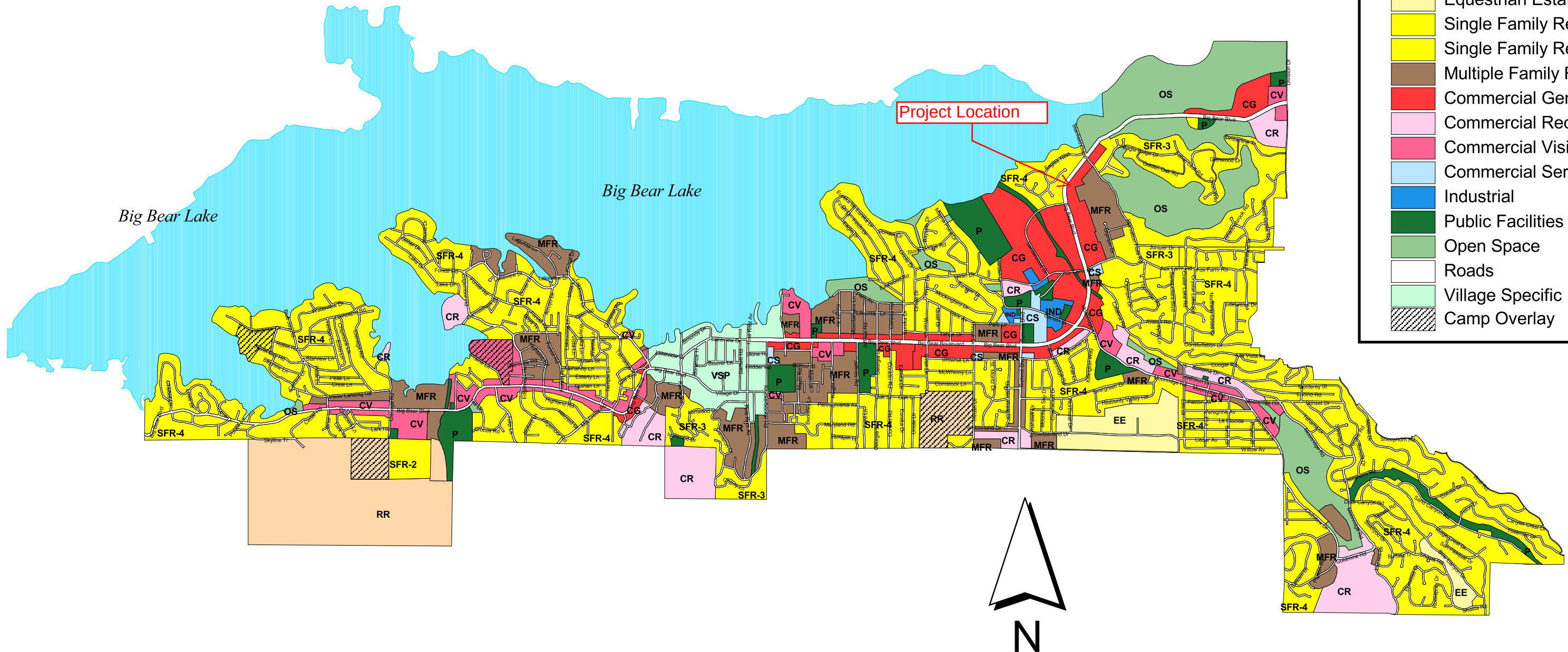
City Council Resolution No 2005-38 and 2005-39, November 14, 2005

City Council Resolution No 2006-40, August 28, 2006

LEGEND

General Plan Land Use

-  Rural Residential
-  Equestrian Estates
-  Single Family Residential-3
-  Single Family Residential-4
-  Multiple Family Residential
-  Commercial General
-  Commercial Recreation
-  Commercial Visitor
-  Commercial Services
-  Industrial
-  Public Facilities
-  Open Space
-  Roads
-  Village Specific Plan
-  Camp Overlay



Please Note:

ALWAYS CONFIRM LATEST LAND USE DESIGNATION THROUGH THE CITY PLANNING DIVISION. (909) 866-5831



CITY OF BIG BEAR LAKE ZONING MAP

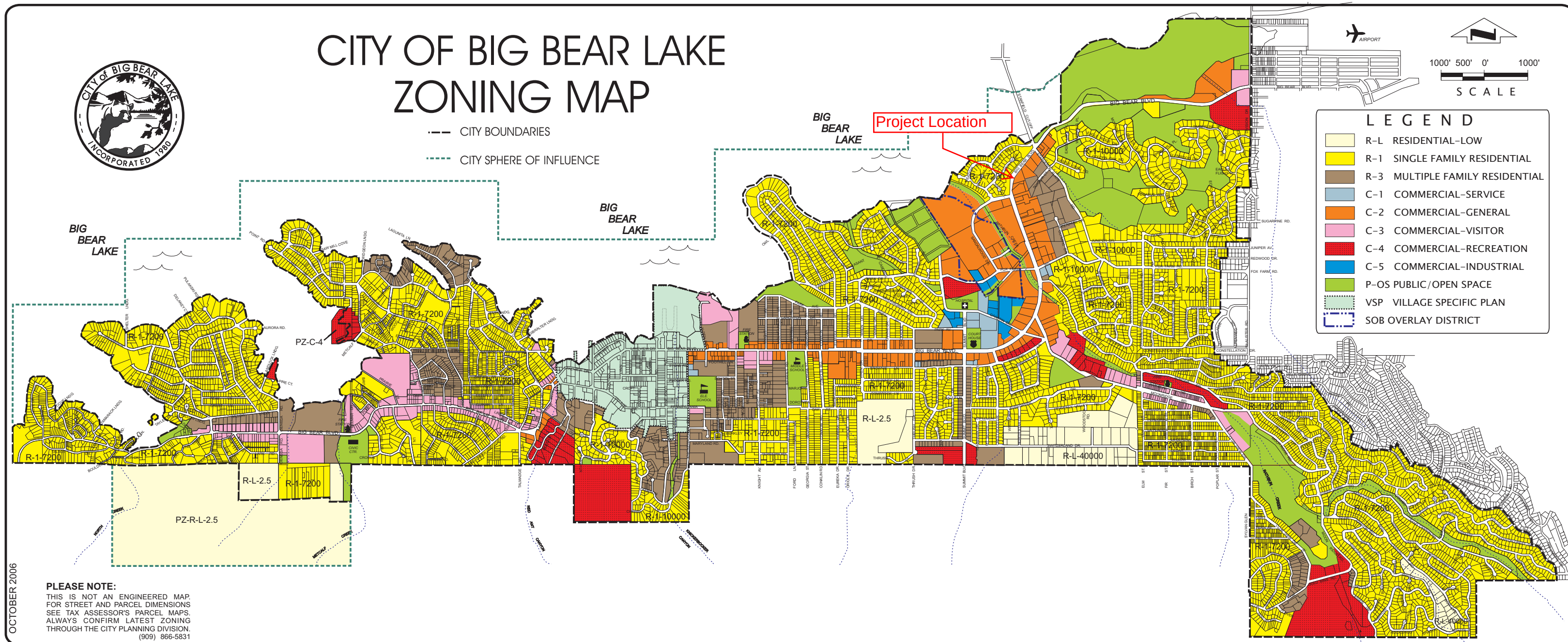
--- CITY BOUNDARIES
--- CITY SPHERE OF INFLUENCE



1000' 500' 0' 1000'
SCALE

LEGEND

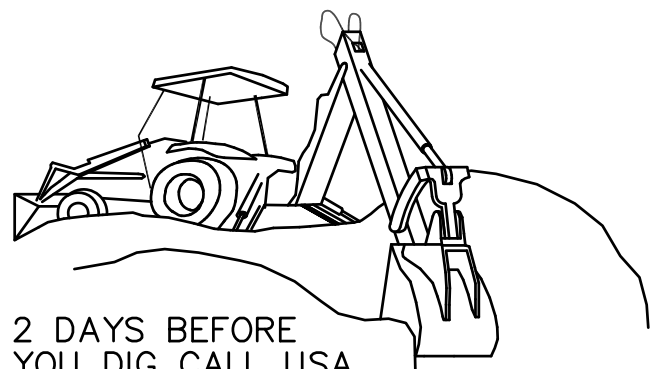
- R-L RESIDENTIAL-LOW
- R-1 SINGLE FAMILY RESIDENTIAL
- R-3 MULTIPLE FAMILY RESIDENTIAL
- C-1 COMMERCIAL-SERVICE
- C-2 COMMERCIAL-GENERAL
- C-3 COMMERCIAL-VISITOR
- C-4 COMMERCIAL-RECREATION
- C-5 COMMERCIAL-INDUSTRIAL
- P-OS PUBLIC/OPEN SPACE
- VSP VILLAGE SPECIFIC PLAN
- SOB OVERLAY DISTRICT



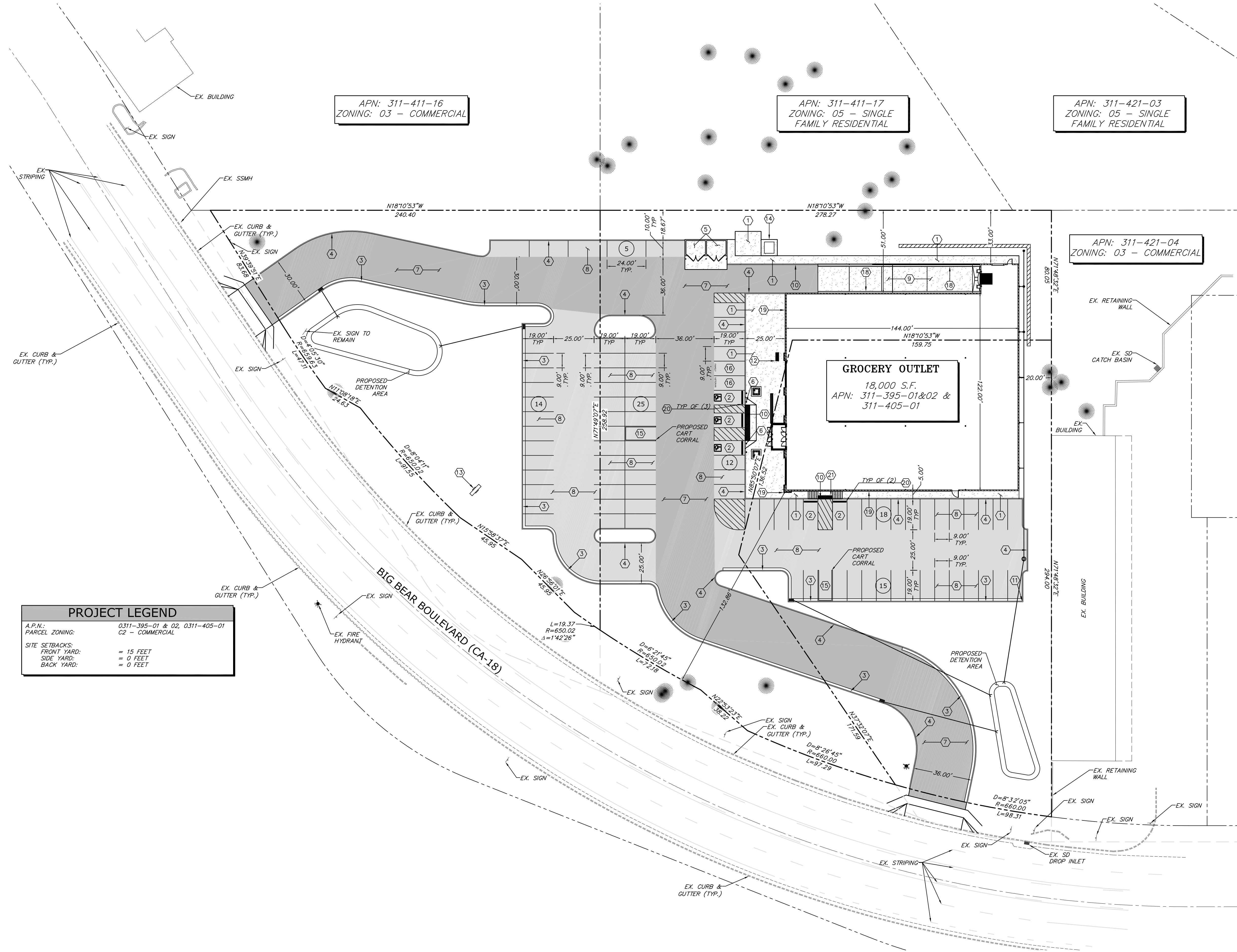
PLEASE NOTE:
THIS IS NOT AN ENGINEERED MAP.
FOR STREET AND PARCEL DIMENSIONS
SEE TAX ASSESSOR'S PARCEL MAPS.
ALWAYS CONFIRM LATEST ZONING
THROUGH THE CITY PLANNING DIVISION.
(909) 866-5831

OCTOBER 2006

1"=30'-0" GROCERY OUTLET BIG BEAR LAKE, CA 19167_C21

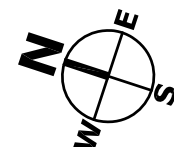


PROJECT LEGEND	
A.P.N.:	0311-395-01 & 02, 0311-405-01
PARCEL ZONING:	C2 - COMMERCIAL
SITE SETBACKS:	
FRONT YARD:	= 15 FEET
SIDE YARD:	= 0 FEET
BACK YARD:	= 0 FEET



SITE PLAN

SCALE: 1" = 30'-0"



PARKING SUMMARY	
INDIVIDUAL PARKING REQUIREMENTS:	
RETAIL	12,490 S.F./150 S.F./SPACE = 83 SPACES
STORAGE	4,682 S.F./1,000 S.F./SPACE = 5 SPACES
OFFICE	242 S.F./250 S.F./SPACE = 1 SPACE
TOTAL SPACES REQUIRED	= 89 SPACES
PARKING PROVIDED:	
STANDARD PARKING PROVIDED	= 84 SPACES
HANDICAP PARKING PROVIDED:	
VAN (WITH 8' MIN ACCESS)	= 3 SPACES
FAMILY PARKING	= 1 SPACE
VETERANS PARKING	= 1 SPACE
TOTAL SPACES PROVIDED:	= 89 SPACES

- NOTES:
- PERMANENT STRIPING, BIKE LANES, AND MARKINGS SHALL BE IN ACCORDANCE WITH THE "CALIFORNIA M.U.T.C.D."
 - PARKING SPACE LINES SHALL BE 4-INCH WIDE, WHITE STRIPES.
 - ACCESSIBLE VAN LOADING & UNLOADING ACCESS AISLE SHALL BE MARKED BY A BORDER PAINTED BLUE. WITHIN THE BLUE BORDER, HATCHED LINES A MAXIMUM OF 36" (914 mm) ON CENTER SHALL BE PAINTED A COLOR CONTRASTING WITH THE PARKING SURFACE, PREFERABLY BLUE OR WHITE. THE WORDS "NO PARKING" SHALL BE PAINTED ON THE GROUND WITHIN EACH 8' (2438 mm) LOADING AND UNLOADING ACCESS AISLE. THIS NOTICE SHALL BE PAINTED IN WHITE LETTERS NO LESS THAN 12" (305mm) HIGH AND LOCATED SO THAT IT IS VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS. REQUIREMENTS TO CONFORM TO TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS.
 - PARKING STALL INSTALLATION AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA M.U.T.C.D.
 - ALL EXTERIOR CONCRETE EXPOSED TO FREEZING AND THAWING CONDITIONS SHOULD BE RATED AT 4,000 PSI MINIMUM. AIR ENTRAINMENT ADMIXTURE TO RESULT IN 4-5% - 7.5% AIR CONTENT.
 - REFERENCE "GENERAL NOTES" ON SHEET C6.1
 - REFERENCE "ABBREVIATIONS" ON SHEET C6.1
 - REFERENCE "LEGEND" ON SHEET C6.1

- CONSTRUCTION NOTES:
- CONSTRUCT SIDEWALK PER DETAIL 2, SHEET C6.2
 - CONSTRUCT ACCESSIBLE RAMP AND STALL AS PER DETAIL 3, SHEET C6.2
 - CONSTRUCT TYPE I P.C.C. CURB & GUTTER AS PER DETAIL 5, SHEET C6.2
 - CONSTRUCT P.C.C. MEDIAN CURB PER DETAIL 6, SHEET C6.2
 - CONSTRUCT TRASH ENCLOSURE. SEE ARCHITECTURAL PLANS.
 - INSTALL ACCESSIBLE PARKING STALL SIGNAGE/6" BOLLARD AS PER DETAIL 1, SHEET C6.3
 - CONSTRUCT HEAVY ASPHALT SECTION AS PER DETAIL 2, SHEET C6.3
 - CONSTRUCT LIGHT ASPHALT SECTION AS PER DETAIL 3, SHEET C6.3
 - CONSTRUCT CONCRETE TRUCK DOCK, SEE DETAIL 5, SHEET C6.3 FOR APRON AND SEE STRUCTURAL PLANS FOR DOCK RETAINING WALLS AND RAILING.
 - INSTALL 0" REVEAL P.C.C. MEDIAN CURB AS PER DETAIL 6, SHEET C6.2
 - CONSTRUCT CURB OPENING AS PER DETAIL 1, SHEET C6.4
 - INSTALL PERMANENT ANCHORED BIKE RACK AS PER DETAIL 6, SHEET C6.6
 - INSTALL LIGHTED SITE PYLON SIGN WITH UNDERGROUND ELECTRICAL, COORDINATE SIZE & DESIGN WITH SIGNAGE PLANS.
 - INSTALL TRANSFORMER PAD WITH REMOVABLE BOLLARDS FOR PROTECTION, COORDINATE FINAL SIZE & LOCATION WITH ENERGY PURVEYOR.
 - CONSTRUCT CART CORRAL SEE ARCHITECTURAL PLANS FOR DETAIL.
 - PARKING STALL TO BE RESERVED FOR VETERAN OR FAMILY PARKING, STRIPE PARKING STALL AS PER M.U.T.C.D. STANDARDS FOR RESERVED PARKING.
 - CONSTRUCT BITUMINOUS PAVEMENT PATCH AS PER DETAIL 7, SHEET C6.3
 - CONSTRUCT 12"x12" MEDIAN CURB IN LOADING DOCK AREA AS PER DETAIL 8A, SHEET C6.2
 - CONSTRUCT 6"x3" CURB AS PER DETAIL 8, SHEET C6.2
 - INSTALL WHEEL STOP AS PER DETAIL 8, SHEET C6.3
 - CONSTRUCT MID-BLOCK ACCESSIBILITY RAMP AS PER DETAIL 6, SHEET C6.7

COPYRIGHT:

DRAWN: S.W.T.

DESIGNED: S.W.T.

CHECKED/STAMPED:

STAMP:

DESIGNER:

PROJECT/CLIENT:

#: 19167

SUBMITTAL RECORD:

DATE: 07/06/20

SHEET TITLE:

SHEET:

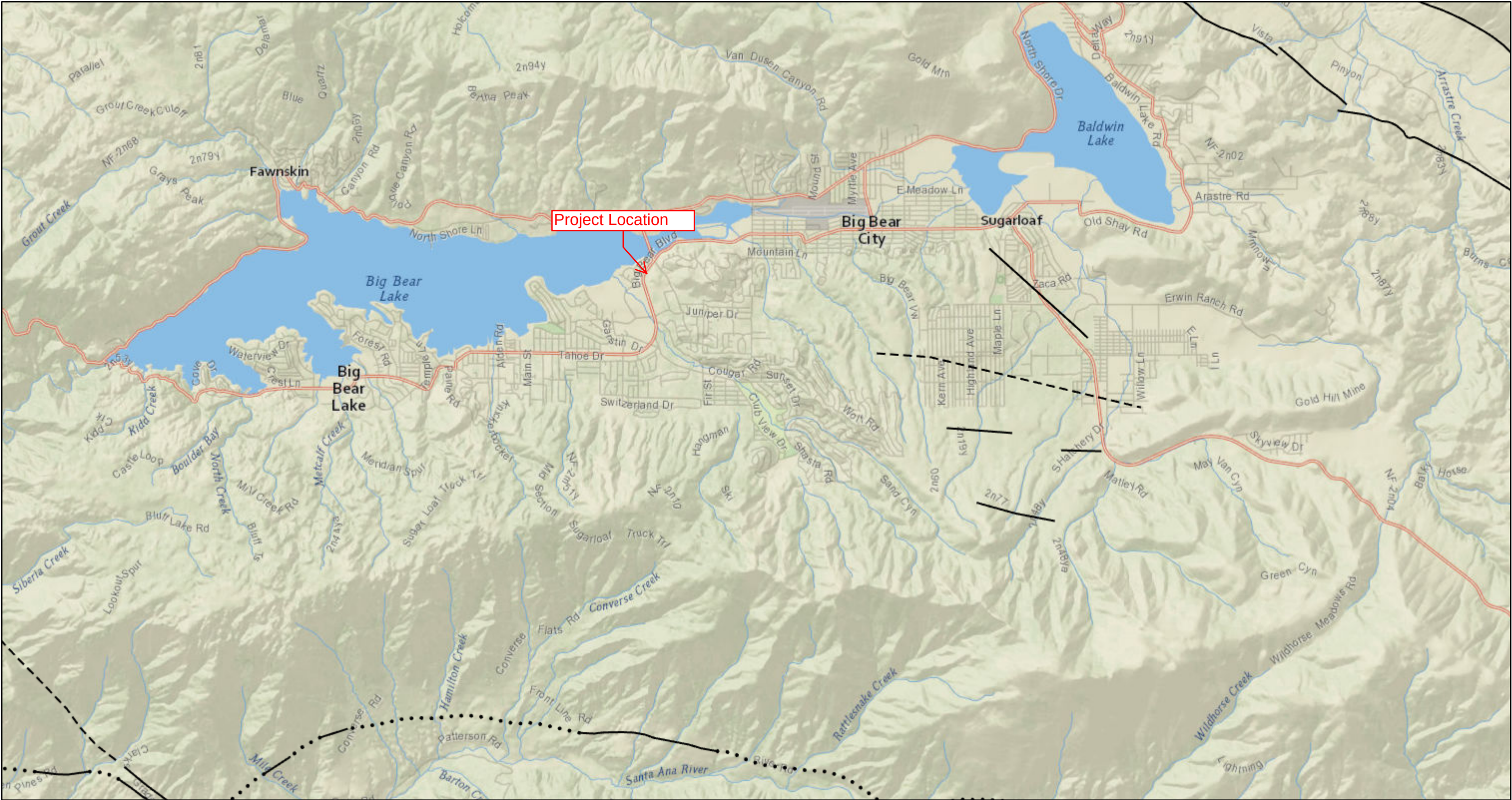
Grocery Outlet
Big Bear Lake, California

MAIN & MAIN
6600 Paige Road, Suite 224, The Colony, TX 75056

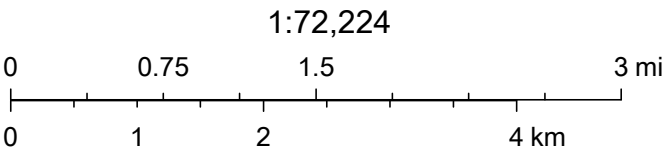
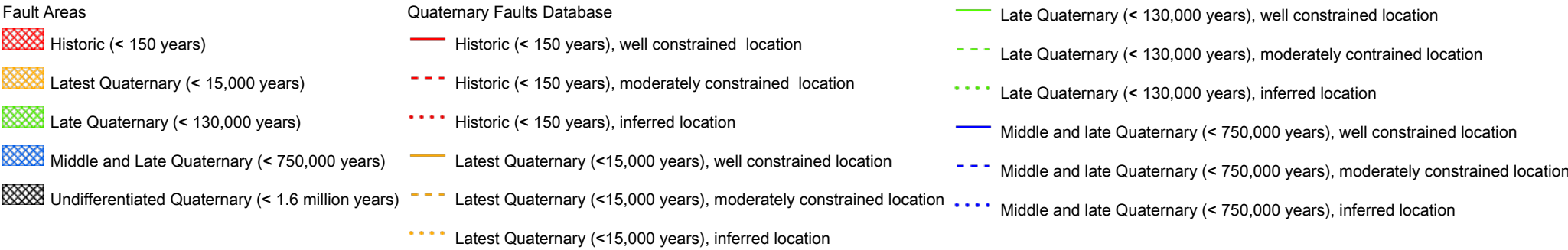
SITE PLAN

C2.1

U.S. Geological Survey Quaternary Faults



9/1/2020, 3:39:41 PM



USGS, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

National Flood Hazard Layer FIRMette



116°53'23"W 34°15'30"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/9/2020 at 2:50 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

USGS The National Map: Orthoimagery. Data refreshed April 2020

0 250 500 1,000 1,500 2,000 Feet 1:6,000

116°52'45"W 34°15'1"N

APPENDIX A

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT –
AIR QUALITY SIGNIFICANCE THRESHOLDS**



South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO ₂ 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM ₁₀ 24-hour average annual average	10.4 µg/m ³ (construction) ^e & 2.5 µg/m ³ (operation) 1.0 µg/m ³	
PM _{2.5} 24-hour average	10.4 µg/m ³ (construction) ^e & 2.5 µg/m ³ (operation)	
SO ₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m ³ (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 µg/m ³ (state) 0.15 µg/m ³ (federal)	

^a Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter $\geq$ = greater than or equal to
 MT/yr CO₂eq = metric tons per year of CO₂ equivalents $>$ = greater than

APPENDIX B

**BIOLOGICAL RESOURCES
ASSESSMENT**

GENERAL BIOLOGICAL RESOURCE ASSESSMENT AND HABITAT ASSESSMENT FOR ASH-GRAY PAINTBRUSH (*CASTILLEJA CINEREA*), BIG BEAR VALLEY MILK-VETCH (*ASTRAGALUS LENTIGINOSUS* VAR. *SIERRAE*), BIG BEAR VALLEY PHLOX (*PHLOX DOLICHANTHA*), BIG BEAR VALLEY SANDWORT (*EREMOGONE URSINA*), PARISH'S YAMPAH (*PERIDERIDIA PARISHII* SSP. *PARISHII*), SAN BERNARDINO MOUNTAINS BLADDERPOD (*PHYSARIA KINGII* SSP. *BERNARDINA*), SAN BERNARDINO MOUNTAINS DUDLEYA (*DUDLEYA ABRAMSII* SSP. *AFFINIS*), LODGEPOLE CHIPMUNK (*NEOTAMIAS SPECIOSUS SPECIOSUS*), AND SOUTHERN RUBBER BOA (*CHARINA UMBRATICA*)

PRE-DEVELOPMENT REVIEW 2020-015/PDR

APN 0311-405-01, 0311-395-01 and 0311-395-02

42175 Big Bear Boulevard, Big Bear Lake, CA 92315

San Bernardino County, CA

USGS 7.5-minute topographic quadrangle map Fawnskin in Section 16 of Township 2 North,
Range 1 East



Prepared For:

Main and Main Capital Group, LLC

Mr. Dan Dover

5750 Genesis Court, Suite 103

Frisco, TX 75034

Prepared By and Principal Investigator:



358 Crystal Drive

San Jacinto, CA 92583

(760) 777-1621

Report Date: June 6, 2020

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I. TITLE PAGE

- A. **Date report prepared:** June 6, 2020
- B. **Report Title:** GENERAL BIOLOGICAL RESOURCE ASSESSMENT AND HABITAT ASSESSMENT for ASH-GRAY PAINTBRUSH (*CASTILLEJA CINEREA*), BIG BEAR VALLEY MILK-VETCH (*ASTRAGALUS LENTIGINOSUS* VAR. *SIERRAE*), BIG BEAR VALLEY PHLOX (*PHLOX DOLICHANTHA*), BIG BEAR VALLEY SANDWORT (*EREMOGONE URSINA*), PARISH'S YAMPAH (*PERIDERIDIA PARISHII* SSP. *PARISHII*), SAN BERNARDINO MOUNTAINS BLADDERPOD (*PHYSARIA KINGII* SSP. *BERNARDINA*), SAN BERNARDINO MOUNTAINS DUDLEYA (*DUDLEYA ABRAMSII* SSP. *AFFINIS*), LODGEPOLE CHIPMUNK (*NEOTAMIAS SPECIOSUS SPECIOSUS*), AND SOUTHERN RUBBER BOA (*CHARINA UMBRATICA*) On PRE-DEVELOPMENT REVIEW 2020-015/PDR; APN 0311-405-01, 0311-395-01 and 0311-395-02; 42175 Big Bear Boulevard, Big Bear Lake, CA 92315
- C. **Project site location:** USGS 7.5-minute topographic quadrangle map Fawnskin in Section 16 of Township 2 North, Range 1 East
- D. **Assessor's Parcel Number(s) and any related County assigned planning application numbers (i.e., Tract Map #) :**
PRE-DEVELOPMENT REVIEW 2020-015/PDR
APN 0311-405-01, 0311-395-01 and 0311-395-02
42175 Big Bear Boulevard, Big Bear Lake, CA 92315
- E. **Owner/Applicant:**
Main and Main Capital Group, LLC
Mr. Dan Dover
5750 Genesis Court, Suite 103
Frisco, TX 75034
- F. **Principal Investigator(s):**
Teresa Gonzales
Address: 358 Crystal Drive
San Jacinto, CA 92583
Phone: 760.777-1621
- G. **Name and phone number of person preparing report and of all persons who performed fieldwork on the site.**
- | | | |
|-----------------|---------------------|-----|
| Name of Person | Role on project | |
| Teresa Gonzales | Prepared report | and |
| | performed fieldwork | |
| Paul Gonzales | Performed fieldwork | |

II. EXECUTIVE SUMMARY

Findings and Conclusions

Main and Main Capital Group, LLC has proposed development of the 2.92-acre project site located in the City of Big Bear Lake, San Bernardino County, California. In May 2020, Teresa Gonzales, Principal Biologist, and Paul Gonzales, Senior Biologist of Gonzales Environmental Consulting, LLC (GEC) conducted general biological resource assessment (BRA), native plant assessment and habitat assessment for to characterize biological resources on the site, and to identify any biological constraints to the proposed project.

Main and Main Capital Group, LLC is planning to install a Grocery outlet and associated parking. The purpose of the BRA was to address potential effects of the project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game) and/or the California Native Plant Society (CNPS).

The site was assessed for sensitive species known to occur locally. Attention was focused on those State- and/or federally-listed as threatened or endangered species and California Fully Protected species that have been documented in the project vicinity with appropriate habitat. This includes:

- Ash-gray paintbrush (*Castilleja cinerea*)
- Big Bear Valley milk-vetch (*Astragalus lentiginosus* var. *sierrae*)
- Big Bear Valley phlox (*Phlox dolichantha*)
- Big Bear Valley sandwort (*Eremogone ursina*)
- Parish's yampah (*Perideridia parishii* ssp. *parishii*)
- San Bernardino Mountains bladderpod (*Physaria kingii* ssp. *bernardina*)
- San Bernardino Mountains dudleya (*Dudleya abramsii* ssp. *affinis*)
- Lodgepole chipmunk (*Neotamias speciosus speciosus*)
- Southern rubber boa (*Charina umbratica*)

In addition to the above listed species, the site was assessed for its potential suitability to support San Bernardino flying squirrel (*Glaucomys sabrinus californicus*). Although not a State- or federally-listed species, San Bernardino flying squirrel are a CDFW Species of Special Concern and are considered a particularly sensitive species within the region.

The site consists of habitat characterized as disturbed, *Ericameria nauseosa* (Rubber rabbitbrush scrub) Alliance, landscape and *Pinus ponderosa* (*Ponderosa*

pine forest) Alliance. The locations of the native plant communities within the project footprint have been impacted by anthropogenic activities in the area, and aside from boulder areas, consists of compacted disturbed areas. The disturbed vegetation on the project site (site) and its history of anthropogenic disturbances likely limit its value to native plant and animal species.

We found two Birds of Conservation Concern present: hepatic tanager (*Piranga flava*) and Nuttall's woodpecker (*Picoides nuttallii*). The site has the potential to support a few special-status species including species absent but which have appropriate conditions to be present include: Big Bear Valley woollypod (*Astragalus leucolobus*), Parish's rockcress (*Boechera parishii*), and Pine fritillary (*Fritillaria pinetorum*), Lawrence's Goldfinch (*Carduelis lawrencei*), and white-headed woodpecker (*Picaides albolaryatus*). Species with moderate potential to occur: southern rubber boa (*Charina umbratica*), large-blotched salamander (*Ensatina eschscholtzii klauberi*), lodgepole chipmunk (*Neotamias speciosus speciosus*), long-legged myotis (*Myotis volans*) and San Bernardino flying squirrel (*Glaucomys oregonensis californicus*). Species with low potential to occur: Ash-gray paintbrush (*Castilleja cinerea*), Big Bear Valley milk-vetch (*Astragalus lentiginosus* var. *sierra*), San Jacinto Mountains daisy (*Erigeron breweri* var. *jacinteus*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), California spotted owl (*Strix occidentalis occidentalis*), Cooper's hawk (*Accipiter cooperii*), Costa's Hummingbird (*Calypte costae*), Common Yellowthroat (*Geothlypis trichas sinuosa*), song sparrow (*Melospiza melodia*), and Rufous Hummingbird (*Selasphorus rufus*), Townsend's big-eared bat (*Corynorhinus townsendii*) and Crotch bumble bee (*Bombus crotchii*). Habitat Assessment surveys were conducted in May and June, 2020 and found no signs of the above mentioned species using the proposed project site or the zone of influence.

A circumstance of a negative result is not necessarily evidence that the species does not exist on the site or that the site is not actual or potential habitat of the species. The survey results for sensitive species detailed above are only good for one year. Regardless of the survey results, sensitive species cannot be taken under State and Federal law. The survey report and any mitigation measures included do not constitute authorization for incidental take of sensitive species.

III. PROJECT AND PROPERTY DESCRIPTION

A. Property Description

Proposed Project Area

Big Bear Lake is located in the southwestern portion of San Bernardino County approximately 100 miles northeast of Los Angeles and approximately 40 miles northeast of the City of San Bernardino. The City of Big Bear Lake is located along the south shore of the lake.

Big Bear Lake was created by the construction of the Bear Valley Dam in 1884 as a reservoir for storing irrigation water to meet downstream agricultural demands. The current lake capacity was created in 1912 with the construction of the 72-foot high multiple arch concrete dam. The Lake is approximately seven miles long and about one and a half miles wide.

At Big Bear Lake, a warm-summer Mediterranean climate brings about 45 days of precipitation a year, with annual rainfall and snowfall averaging 35 and 67 inches respectively. In addition to precipitation, water enters Big Bear Lake from several tributary streams.

In recent decades, Southern California has experienced extraordinary changes in temperature and precipitation patterns and localized climate change. The duration and intensity of these local climactic changes have resulted in acute lake level fluctuations in Big Bear. The regional/local climate has oscillated between extreme drought (2001-2004 and 2011- 2017) to record rainfall years (2005 and 2010); resulting wide-ranging Lake levels from full to 17+ feet below full.

Hydrologically, the project area is located within the Bear Valley Hydrologic Sub-Area (HSA 801.71), which comprises a 34,333-acre drainage area within the larger Santa Ana River Watershed (HUC 18070203). The Santa Ana River is the major hydrogeomorphic feature within the Santa Ana Watershed. One of several tributaries to the Santa Ana River is Bear Creek, which outflows from Big Bear Lake from the Bear Valley Dam located on at the westernmost (downstream) end of Big Bear Lake. Big Bear Lake is one of the head waters of the Santa Ana River Watershed.

The Big Bear Lake area lies in the geographically based ecological classification known as the Southern California Montane Conifer Forest of the Southern California Mountains Ecoregion. The goal of regional ecological classifications is to reduce variability based on spatial covariance in climate, geology, topography, climax vegetation, hydrology, and soils. The Southern California Montane Conifer Forest ecoregion occurs on the igneous-dominated mountains

of the eastern Transverse Range and the Peninsular Ranges, at elevations generally ranging from 5,000 to 8,500 feet amsl. These high elevations contain a mixed coniferous forest with ponderosa pine, Jeffrey pine, sugar pine, white fir, and incense cedar, hardwoods such as canyon live oak and black oak, and areas of montane chaparral (Griffith et al., 2016; p. 27).

Land use within the general vicinity consists of residential development, rural residential, agriculture, commercial development, commercial recreational use, institutional development, special development, resource conservation and public use/open space.

Proposed Project Site

The project site is located on the southside of Big Bear Boulevard (State Highway 18), northeast of North Sandalwood Drive southwest of Stanfield Cutoff (Figure 1). Development is located north, south, west and most of the eastern portion of the project site.

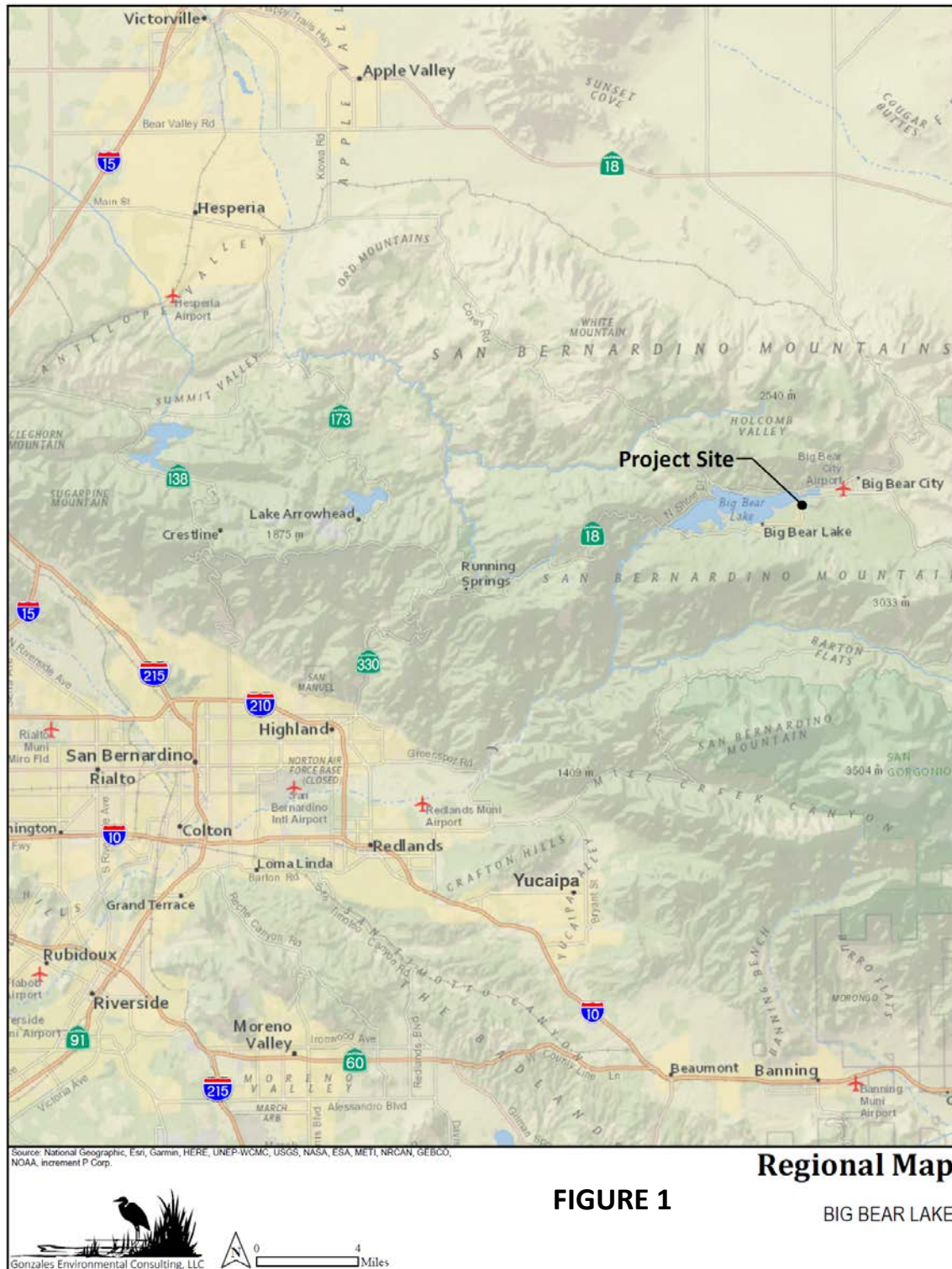
The site is located within San Bernardino Meridian in portions of Section 16 in Township 2 North, Range 1 East in San Bernardino County, California (Figures 1, 2 and 3). This location is shown on the Fawnskin, California 7.5-minute U.S. Geological Survey (USGS) quadrangle (Fawnskin 1994). The approximate center of the site is located at 34.254418° and -116.884393°.

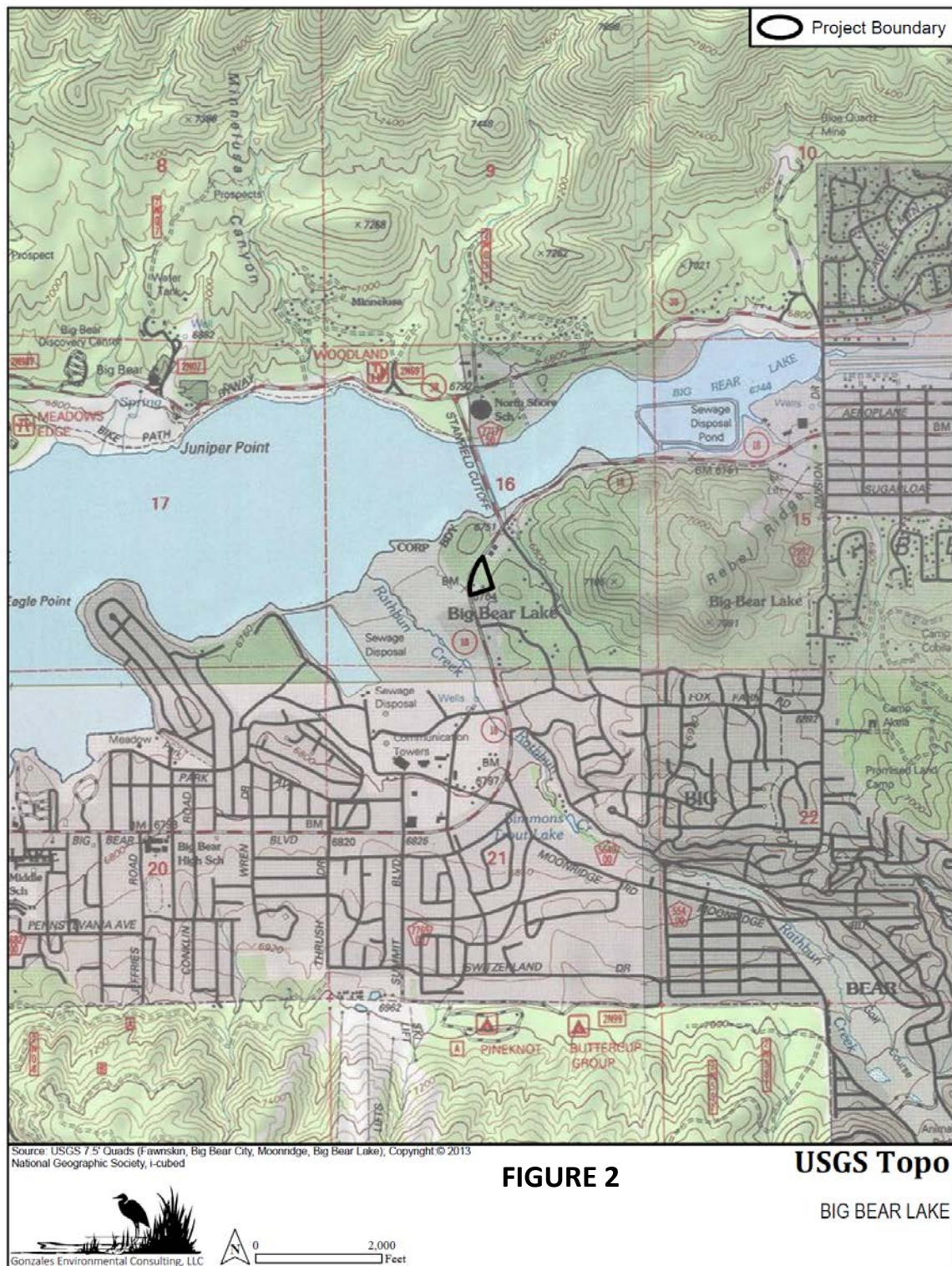
The site is undulating with boulder outcroppings and anthropogenic cleared areas in between. The site occurs at an elevation between 6,780 and 6,825 feet above mean sea level (msl). The site has disturbed native habitat and developed/disturbed (house, landscaping, dirt roads, car and utility vehicle parking and storage).

Commercial development is located northeast and south of Big Bear Boulevard in the project area. Single family residences are located on the west side of Big Bear Boulevard. Native habitat is located east of the project site. The parcels have been impacted by anthropogenic activities. The areas outside of the boulder outcroppings have been cleared of vegetation and contain compacted soils; boulder outcroppings remain partially vegetated with native vegetation. Native vegetation adjacent to the project area is best characterized as *Pinus ponderosa* (*Ponderosa pine forest*) Alliance. On the project site the habitat is best characterized as disturbed, *Ericameria nauseosa* (Rubber rabbitbrush scrub) Alliance, landscape, and *Pinus ponderosa* (*Ponderosa pine forest*) Alliance. The most abundant plants on the site are Ponderosa pine (*Pinus ponderosa*), Bernardino rabbitbrush (*Ericameria nauseosa* var *bernardina*), Sierra juniper (*Juniperus grandis*), and a mixture of native [mat muhly (*Muhlenbergia richardsonis*), beardless wild rye (*Elymus triticoides*), muttongrass (*Poa fendleriana*), pine bluegrass (*Poa secunda* ssp. *secunda*), small fescue (*Festuca microstachys*), and non-native grasses [Japanese chess (*Bromus japonicas*), and cheatgrass (*Bromus tectorum*)]. The locations of the native plant communities within the project footprint have

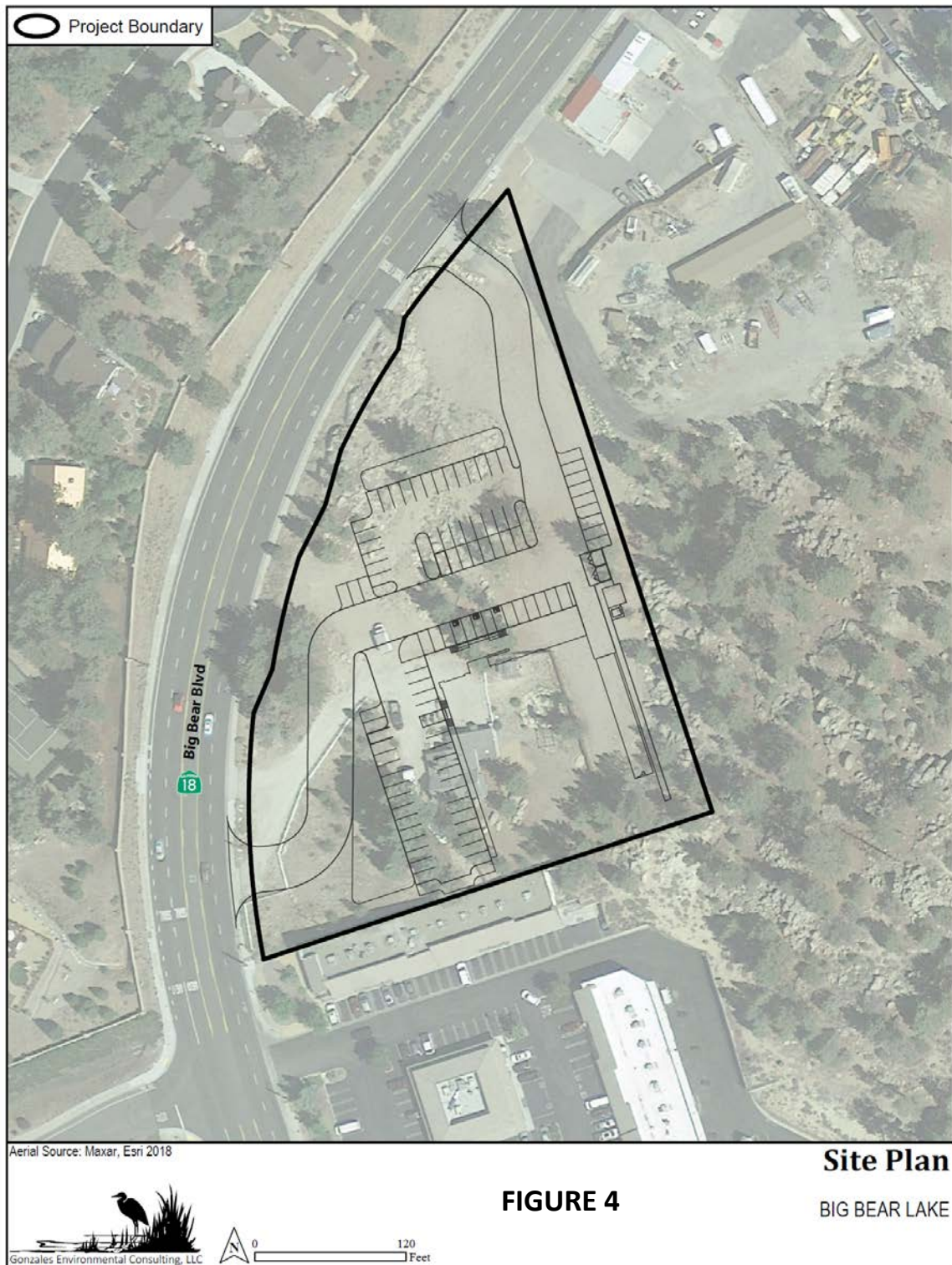
been impacted by anthropogenic activities in the area, and mostly consist of compacted disturbed areas.

There are no potential rare, and/or endangered or otherwise sensitive habitats associated with the proposed project site. The site has the potential to support a few special-status species including species absent but which have appropriate conditions to be present include: Big Bear Valley woollypod (*Astragalus leucolobus*), Parish's rockcress (*Boechera parishii*), and Pine fritillary (*Fritillaria pinetorum*), Lawrence's Goldfinch (*Carduelis lawrencei*), and white-headed woodpecker (*Picaides albolaratus*). Species with moderate potential to occur: southern rubber boa (*Charina umbratica*), large-blotched salamander (*Ensatina eschscholtzii klauberi*), lodgepole chipmunk (*Neotamias speciosus speciosus*), long-legged myotis (*Myotis Volans*) and San Bernardino flying squirrel (*Glaucomys oregonensis californicus*). Species with low potential to occur: Ash-gray paintbrush (*Castilleja cinerea*), Big Bear Valley milk-vetch (*Astragalus lentiginosus* var. *sierra*), San Jacinto Mountains daisy (*Erigeron breweri* var. *jacintus*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), California spotted owl (*Strix occidentalis occidentalis*), Cooper's hawk (*Accipiter cooperii*), Costa's Hummingbird (*Calypte costae*), Common Yellowthroat (*Geothlypis trichas sinuosa*), song sparrow (*Melospiza melodia*), and Rufous Hummingbird (*Selasphorus rufus*), Townsend's big-eared bat (*Corynorhinus townsendii*) and Crotch bumble bee (*Bombus crotchii*).



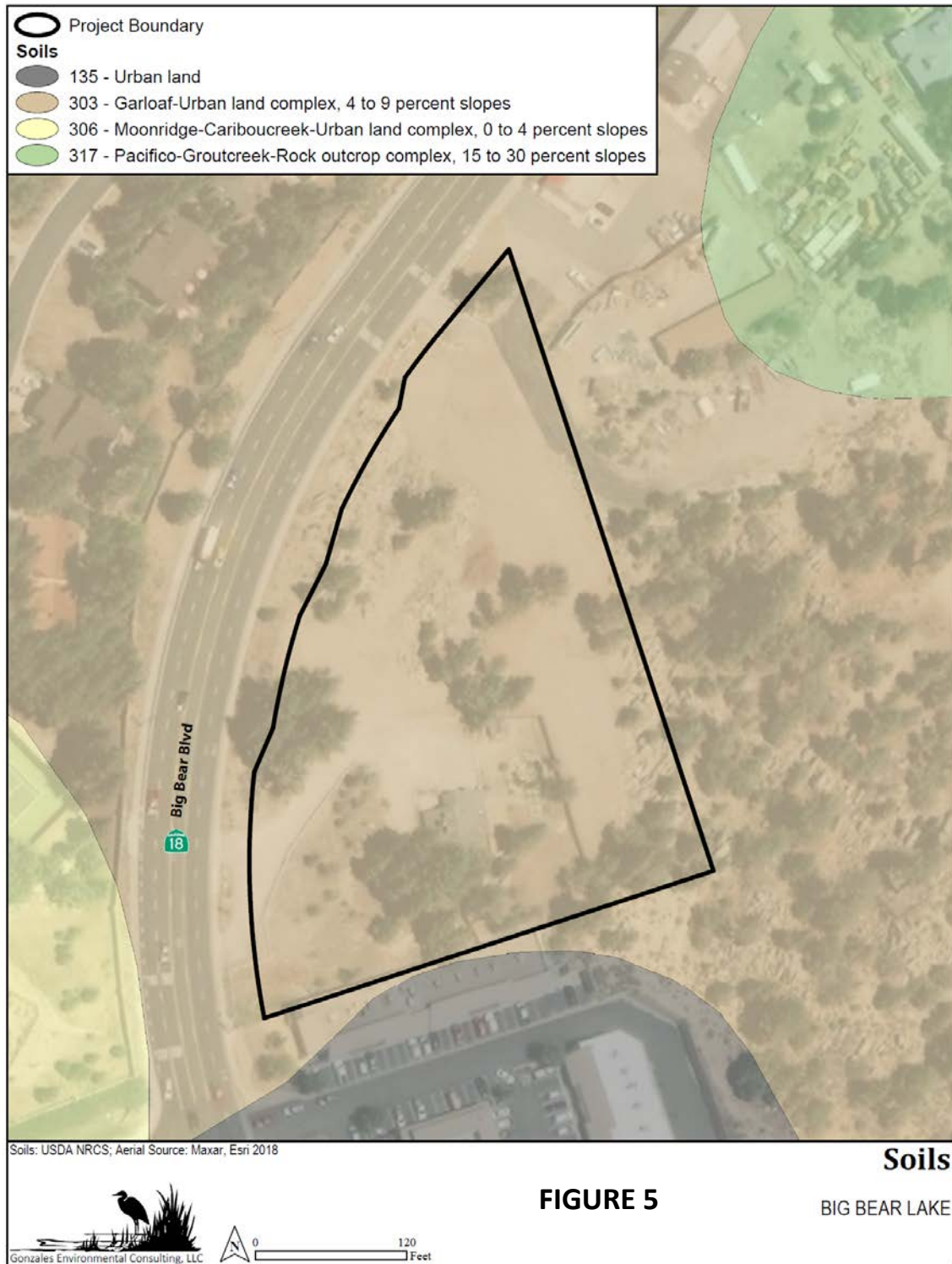






SOILS

The soil series mapped for the area are shown in Figure 5. The soils found are consistent with the soils mapped for the area. Soils have been compacted due to anthropogenic activities.



WETLANDS/STREAMBEDS

There are no wetlands or streambeds on the project site.

B. Proposed Project Description

The project proposes to provide grocery outlet, 73 parking spaces, and internal roadway.

IV. FOCUS STUDY/SPECIES OF CONCERN

A. List from U.S. Fish and Wildlife Service (USFWS)/California Department of Fish and Wildlife (CDFW)

USFWS provided the following species:

California Condor *Gymnogyps californianus* FE
Southwestern Willow Flycatcher *Empidonax traillii extimus* FE
Desert Tortoise *Gopherus agassizii* FT
Ash-grey Paintbrush *Castilleja cinerea* FT
Bear Valley Sandwort *Arenaria ursina* FT
California Taraxacum *Taraxacum californicum* FE
Cushenbury Buckwheat *Eriogonum ovalifolium* var. *vineum* FE
Cushenbury Milk-vetch *Astragalus albens* FE
Cushenbury Oxytheca *Oxytheca parishii* var. *goodmaniana* FE
Parish's Daisy *Erigeron parishii* FT
Pedate Checker-mallow *Sidalcea pedata* FE
San Bernardino Bluegrass *Poa atropurpurea* FE
San Bernardino Mountains Bladderpod *Lesquerella kingii* ssp. *bernardina* FE
Slender-petaled Mustard *Thelypodium stenopetalum* FE
Southern Mountain Wild-buckwheat *Eriogonum kennedyi* var. *austromontanum* FT

FT=Federal Threatened

FE=Federal Endangered

Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act of 1940:

Bald Eagle	<i>Haliaeetus leucocephalus</i>
Black-chinned Sparrow	<i>Spizella atrogularis</i> BCC
Common Yellowthroat	<i>Geothlypis trichas sinuosa</i> BCC
Costa's Hummingbird	<i>Calypte costae</i> BCC
Golden Eagle	<i>Aquila chrysaetos</i>
Lawrence's Goldfinch	<i>Carduelis lawrencei</i> BCC
Long-billed Curlew	<i>Numenius americanus</i> BCC
Marbled Godwit	<i>Limosa fedoa</i> BCC
Nuttall's Woodpecker	<i>Picoides nuttallii</i> BCC
Oak Titmouse	<i>Baeolophus inornatus</i> BCC
Rufous Hummingbird	<i>Selasphorus rufus</i> BCC
Short-billed Dowitcher	<i>Limnodromus griseus</i> BCC
Song Sparrow	<i>Melospiza melodia</i> BCC

Spotted Towhee

White Headed Woodpecker

Willet

Wrentit

BCC= Bird of Conservation Concern

Pipilo maculatus clementae BCC

Picoides albolarvatus BCC

Tringa semipalmata BCC

Chamaea fasciata BCC

California Department of Fish and Wildlife (CDFW) provided the following species. See Table 1 below.

TABLE 1
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW) LIST WITHIN ONE MILE OF THE PROJECT

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFG	CNPS
<i>Neotamias speciosus speciosus</i>	lodgepole chipmunk	None	None	-	-
<i>Charina umbratica</i>	southern rubber boa	None	Threatened	-	-
<i>Castilleja cinerea</i>	ash-gray paintbrush	Threatened	None	-	1B.2
<i>Navarretia peninsularis</i>	Baja navarretia	None	None	-	1B.2
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocoma	None	None	-	1B.2
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	None	None	-	1B.2
<i>Phlox dolichantha</i>	Big Bear Valley phlox	None	None	-	1B.2
<i>Eremogone ursina</i>	Big Bear Valley sandwort	Threatened	None	-	1B.2
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	None	None	-	1B.2
<i>Sidalcea pedata</i>	bird-foot checkerbloom	Endangered	Endangered	-	1B.1
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	Endangered	None	-	1B.1
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	None	None	-	1B.3
<i>Lilium parryi</i>	lemon lily	None	None	-	1B.2
<i>Erythranthe purpurea</i>	little purple monkeyflower	None	None	-	1B.2
<i>Boechera parishii</i>	Parish's rockcress	None	None	-	1B.2
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	None	None	-	2B.2
<i>Poa atropurpurea</i>	San Bernardino blue grass	Endangered	None	-	1B.2
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	Endangered	None	-	1B.1
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	None	None	-	1B.2
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	None	None	-	1B.2
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None	None	-	1B.2
<i>Packera bernardina</i>	San Bernardino ragwort	None	None	-	1B.2
<i>Boechera shockleyi</i>	Shockley's rockcress	None	None	-	2B.2
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	None	None	-	2B.2
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None	None	-	1B.2
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	Endangered	Endangered	-	1B.1
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	Threatened	None	-	1B.2

Legend

FE:	Federally-listed as endangered	SE:	State-listed as endangered
FT:	Federally-listed as threatened	ST:	State-listed as threatened
SCE:	State candidate for listing as endangered	SR:	State rare
FC:	Federal Candidate		

CNPS List= California Native Plant Society

CNPS 1B= Rare or Endangered In California and Elsewhere

CNPS 2= Rare or Endangered in California, More Common Elsewhere

CNPS 3= Need More Information

CNPS 4= Plants of Limited Distribution

CNPS New Threat Code extensions and their meanings:

- .1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 – Fairly endangered in California (20-80% occurrences threatened)
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

B. Consult with California Natural Diversity Database (CNDDB)

TABLE 2
CNDDB RARE, THREATENED OR ENDANGERED SPECIES IN FAWNSKIN QUADRANGLE

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFG	CNPS
<i>Ensatina eschscholtzii klauberi</i>	large-blotched salamander	None	None	WL	-
<i>Rana muscosa</i>	southern mountain yellow-legged frog	Endangered	Endangered	WL	-
<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL	-
<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	Endangered	FP	-
<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	SSC	-
<i>Strix occidentalis occidentalis</i>	California Spotted Owl	None	None	SSC	-
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	Endangered	Endangered	-	-
			Candidate		
<i>Bombus crotchii</i>	Crotch bumble bee	None	Endangered	-	-
<i>Bombus morrisoni</i>	Morrison bumble bee	None	None	-	-
<i>Hydroporus simplex</i>	simple hydroporus diving beetle	None	None	-	-
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	None	None	-	-
<i>Ovis canadensis nelsoni</i>	desert bighorn sheep	None	None	FP	-
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	None	None	SSC	-
<i>Callospermophilus lateralis bernardinus</i>	San Bernardino golden-mantled ground squirrel	None	None	-	-
<i>Glaucomys oregonensis californicus</i>	San Bernardino flying squirrel	None	None	SSC	-
<i>Neotamias speciosus speciosus</i>	lodgepole chipmunk	None	None	-	-
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
<i>Myotis evotis</i>	long-eared myotis	None	None	-	-
<i>Myotis thysanodes</i>	fringed myotis	None	None	-	-
<i>Myotis volans</i>	long-legged myotis	None	None	-	-
<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
<i>Charina umbratica</i>	southern rubber boa	None	Threatened	-	-
<i>Thamnophis hammondi</i>	two-striped gartersnake	None	None	SSC	-
<i>Uma scoparia</i>	Mojave fringe-toed lizard	None	None	SSC	-
<i>Eriogonum umbellatum</i> var. <i>minus</i>	alpine sulphur-flowered buckwheat	None	None	-	4.3
<i>Castilleja cinerea</i>	ash-gray paintbrush	Threatened	None	-	1B.2
<i>Navarretia peninsularis</i>	Baja navarretia	None	None	-	1B.2
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocoma	None	None	-	1B.2
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	None	None	-	1B.2
<i>Phlox dolichantha</i>	Big Bear Valley phlox	None	None	-	1B.2
<i>Eremogone ursina</i>	Big Bear Valley sandwort	Threatened	None	-	1B.2
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	None	None	-	1B.2
<i>Sidalcea pedata</i>	bird-foot checkerbloom	Endangered	Endangered	-	1B.1
<i>Taraxacum californicum</i>	California dandelion	Endangered	None	-	1B.1

GENERAL BIOLOGICAL RESOURCE ASSESSMENT AND HABITAT ASSESSMENT

APN 0311-405-01, 0311-395-01 and 0311-395-02

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFG	CNPS
<i>Sidotheca caryophylloides</i>	chickweed oxytheca	None	None	-	4.3
<i>Abronia nana</i> var. <i>covillei</i>	Coville's dwarf abronia	None	None	-	4.2
<i>Astragalus bicristatus</i>	crested milk-vetch	None	None	-	4.3
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	Endangered	None	-	1B.1
<i>Astragalus albens</i>	Cushenbury milk-vetch	Endangered	None	-	1B.1
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	Endangered	None	-	1B.1
<i>Sedum niveum</i>	Davidson's stonecrop	None	None	-	4.2
<i>Cordylanthus eremicus</i> ssp. <i>eremicus</i>	desert bird's-beak	None	None	-	4.3
<i>Claytonia peirsonii</i> ssp. <i>californiacis</i>	Furnace spring beauty	None	None	-	1B.1
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	None	None	-	1B.2
<i>Castilleja montigena</i>	Heckard's paintbrush	None	None	-	4.3
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	None	None	-	1B.3
<i>Diplacus johnstonii</i>	Johnston's monkeyflower	None	None	-	4.3
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	None	None	-	4.3
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	None	None	-	1B.2
<i>Lilium parryi</i>	lemon lily	None	None	-	1B.2
<i>Erythranthe purpurea</i>	little purple monkeyflower	None	None	-	1B.2
<i>Dryopteris filix-mas</i>	male fern	None	None	-	2B.3
<i>Castilleja plagiotoma</i>	Mojave paintbrush	None	None	-	4.3
<i>Phacelia mohavensis</i>	Mojave phacelia	None	None	-	4.3
<i>Delphinium parryi</i> ssp. <i>purpureum</i>	Mt. Pinos larkspur	None	None	-	4.3
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	None	None	-	1B.2
<i>Heuchera parishii</i>	Parish's alumroot	None	None	-	1B.3
<i>Erigeron parishii</i>	Parish's daisy	Threatened	None	-	1B.1
<i>Allium parishii</i>	Parish's onion	None	None	-	4.3
<i>Boechera parishii</i>	Parish's rockcress	None	None	-	1B.2
<i>Rupertia rigida</i>	Parish's rupertia	None	None	-	4.3
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	None	None	-	2B.2
<i>Hulsea vestita</i> ssp. <i>parryi</i>	Parry's hulsea	None	None	-	4.3
<i>Fritillaria pinetorum</i>	pine fritillary	None	None	-	4.3
<i>Frasera neglecta</i>	pine green-gentian	None	None	-	4.3
<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	None	None	-	2B.2
<i>Poa atropurpurea</i>	San Bernardino blue grass	Endangered	None	-	1B.2
<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	None	None	-	1B.2
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	Endangered	None	-	1B.1
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	None	None	-	1B.2
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	None	None	-	1B.2
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None	None	-	1B.2
<i>Packera bernardina</i>	San Bernardino ragwort	None	None	-	1B.2
<i>Claytonia peirsonii</i> ssp. <i>bernardinus</i>	San Bernardino spring beauty	None	None	-	1B.1
<i>Erigeron breweri</i> var. <i>jacinteus</i>	San Jacinto Mountains daisy	None	None	-	4.3
<i>Boechera shockleyi</i>	Shockley's rockcress	None	None	-	2B.2

GENERAL BIOLOGICAL RESOURCE ASSESSMENT AND HABITAT ASSESSMENT

APN 0311-405-01, 0311-395-01 and 0311-395-02

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFG	CNPS
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	None	None	-	2B.2
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None	None	-	1B.2
<i>Galium angustifolium</i> ssp. <i>gracillimum</i>	slender bedstraw	None	None	-	4.2
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	Endangered	Endangered	-	1B.1
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	Threatened	None	-	1B.2
<i>Eriophyllum lanatum</i> var. <i>obovatum</i>	southern Sierra woolly sunflower	None	None	-	4.3
<i>Phacelia exilis</i>	Transverse Range phacelia	None	None	-	4.3
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	None	None	-	1B.1
<i>Drymocallis cuneifolia</i> var. <i>cuneifolia</i>	wedgeleaf woodbeauty	None	None	-	1B.1
<i>Carex scirpoidea</i> ssp. <i>pseudoscirpoidea</i>	western single-spiked sedge	None	None	-	2B.2
<i>Johnstonella holoptera</i>	winged cryptantha	None	None	-	4.3
Southern California Threespine Stickleback Stream Pebble Plains					
Legend					
FE:	Federally-listed as endangered	SE:	State-listed as endangered		
FT:	Federally-listed as threatened	ST:	State-listed as threatened		
SCE:	State candidate for listing as endangered	SR:	State rare		
FC:	Federal Candidate				
CNPS List= California Native Plant Society					
CNPS 1B= Rare or Endangered In California and Elsewhere					
CNPS 2= Rare or Endangered in California, More Common Elsewhere					
CNPS 3= Need More Information					
CNPS 4= Plants of Limited Distribution					
CNPS New Threat Code extensions and their meanings:					
.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)					
.2 - Fairly endangered in California (20-80% occurrences threatened)					
.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)					

C. Literature Review

Prior to visiting the proposed action area, a desktop review of the existing literature and data was conducted by a Gonzales Environmental Consulting, LLC to investigate the potential occurrence of special-status species in the vicinity of the proposed action areas. This desktop review provided a potential list of special-status resources known to occur in the area that needs to be surveyed during a field evaluation. The following resources were used in order to generate a list of potential species:

- California Natural Diversity Database (CNDDB) Rarefind 5 (CDFW 2020) data within the U.S. Geological Survey Fawnskin and surrounding 7.5 minute topographic quadrangles
- California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Plants containing species-specific habitat requirements for plant species (CNPS 2020)
- United States Fish and Wildlife Service (USFWS) database of designated Critical Habitat
- United States Fish and Wildlife Service (USFWS) Information, Planning and Conservation System (IPaC) (IPaC 2020)
- The Jepson Manual, second edition (Baldwin et al. 2012)
- A Manual of California Vegetation (Sawyer et al. 2009)
- Current U.S. Forest Service sensitive (USFS) plant and animal
- eBird: An online database of bird distribution and abundance [web application] (eBird 2018)
- California Herps: A Guide to the Amphibians and Reptiles of California (Nafis 2020)
- Calflora What Grows Here online application (Calflora 2020)

D. Consultation with Experts on Species/Agencies

California Department of Fish and Wildlife, Region 6 was contacted regarding species.

U.S. Fish and Wildlife Service, Carlsbad Field Office was contacted regarding species in the project area.

V. METHODOLOGY

Biological Surveys

Baseline biological studies of the proposed project were conducted in May 2020. Existing biological data was collected using Personal Computers (PCs) and Geographic Positioning System (GPS). This allowed for data to be collected in real time. Data layers uploaded onto these PCs included recent aerial photography, and topographic contours. Biological data was mapped onto the aerial photograph layers as polygon, line, and point attributes.

Checklists of biological information were uploaded onto the PCs, which allowed us to accurately label all data points, ensure consistency, and keep a running electronic account of all species encountered during the surveys. Finally, these checklists allowed for the inclusion of supplemental field notes, most notably, ranking of the quality of the various habitats including dominant and associate species for each vegetation polygon; assessing habitats for the potential presence of sensitive species not observed during the surveys; and identifying areas that would require protocol-level sensitive species surveys (i.e., USFWS protocol-level surveys for federal threatened and endangered species).

Habitats for specific species of wildlife and plants identified during surveys were classified as: not expected, low, moderate, high, or expected. These classifications were based on the quality of the habitat for each species and the proximity of the habitat to a known occurrence of a species obtained from CNDDDB data. The definitions of each of the classifications are as follows:

Not Expected: Species not previously reported in the vicinity of the site, and suitable habitat very marginal due to disturbances, fragmentation, and/or isolation.

Low: Species previously reported from the vicinity of the site, but suitable habitat is marginal due to disturbances, fragmentation, and/or isolation.

Moderate: Species previously reported from the vicinity of the site, and large areas of contiguous high-quality habitat present; or species previously reported in the vicinity of the site, but suitable habitat quality is moderate due to disturbances, fragmentation, and/or isolation.

High: Species previously reported from regional vicinity of the site, and large areas of contiguous high-quality habitat are present.

Expected: Species previously reported from very close vicinity of the site, and large areas of contiguous high-quality habitat are present.

Vegetation Methods

Aerial photography and digital vegetation maps were reviewed to determine potential community types within the project area. Preliminary ground-truthing surveys concurred with digital vegetation maps, and additional surveys were performed to accurately define the community types and boundaries.

Wetlands and Aquatic Resources Methods

General aquatic resource assessments of the proposed project site were conducted which included general mapping of habitat(s) that may be subject to jurisdiction of the ACOE pursuant to section 404 of the Clean Water Act and CDFW pursuant to sections 1600-12 of the California Fish and Game Code. None were found on site.

Wildlife Survey and Habitat Assessment Methods

General reconnaissance and habitat assessment surveys were completed to determine habitat suitability for listed species and special status plant, wildlife, and aquatic species. Suitable habitat for listed species and special status species was determined by the presence of specific habitat elements. The surveys coincided with the period during which many wildlife species, including migratory species, would have been most detectable. A faunal inventory of all species observed during the course of the surveys was also prepared.

Special Status Species Methods

Special Status Rare Plant Species Survey Methods

Information on special status rare plant species within the project area was gathered from several sources including California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2020), CNDDDB (CNDDDB 2020), and CalFlora (CalFlora 2020). Maps depicting all known sensitive plant species locations within the project area were produced to aid in determining the target species for survey. General reconnaissance and habitat assessment surveys were completed to determine habitat suitability for listed species and special status plants. Suitable habitat for listed species and special status species was determined by the presence of specific habitat elements.

Plant surveys of the project area were conducted in late May and early June 2020. This time period corresponds to the time during which most ephemeral spring annuals and herbaceous perennials, especially sensitive plant species, in mountain areas of San Bernardino County would be most detectable. Focused rare plant level surveys were not conducted. Sensitive species that potentially could occur within the project area were documented. The likelihood of these species occurrence (expected, high, moderate, low, or not expected) was also assessed.

A floral inventory of all species observed during the course of the surveys was also documented.

Special Status Wildlife Species Survey Methods

Prior to conducting habitat assessment surveys, CNDDDB and other sources were reviewed for the records of special status wildlife species potentially occurring in the project area. General reconnaissance and habitat assessment surveys were conducted to assess the presence of special status wildlife species habitats within the project area. Maps depicting all known sensitive plant species locations within the regional vicinity of the project were produced to aid in determining the target species to survey.

All wildlife species encountered during surveys were documented. Any specific areas (e.g., potential nesting, breeding, and foraging habitat) encountered during the surveys that have a high probability for supporting sensitive wildlife were documented. The likelihood of these species occurrence (not expected, low, moderate, high, expected) was also assessed.

General habitat assessments were also conducted. General habitat assessments involved evaluating the specific vegetation communities encountered and their potential to support these sensitive species (expected, high, moderate, low, not expected).

Surveys

A complete floristic survey of the project area, as required in a complete CEQA analysis, was conducted in May and June 2020 to determine whether listed or special status plant species or sensitive plant communities occur. No listed plants are known to occur within the immediate area, however there are several within one mile of the project area.

Transects for general reconnaissance and habitat assessment surveys were conducted to assess the presence of special status wildlife and plant species habitats within the project area. Please see Figure 4. Survey information is included in Table 3.

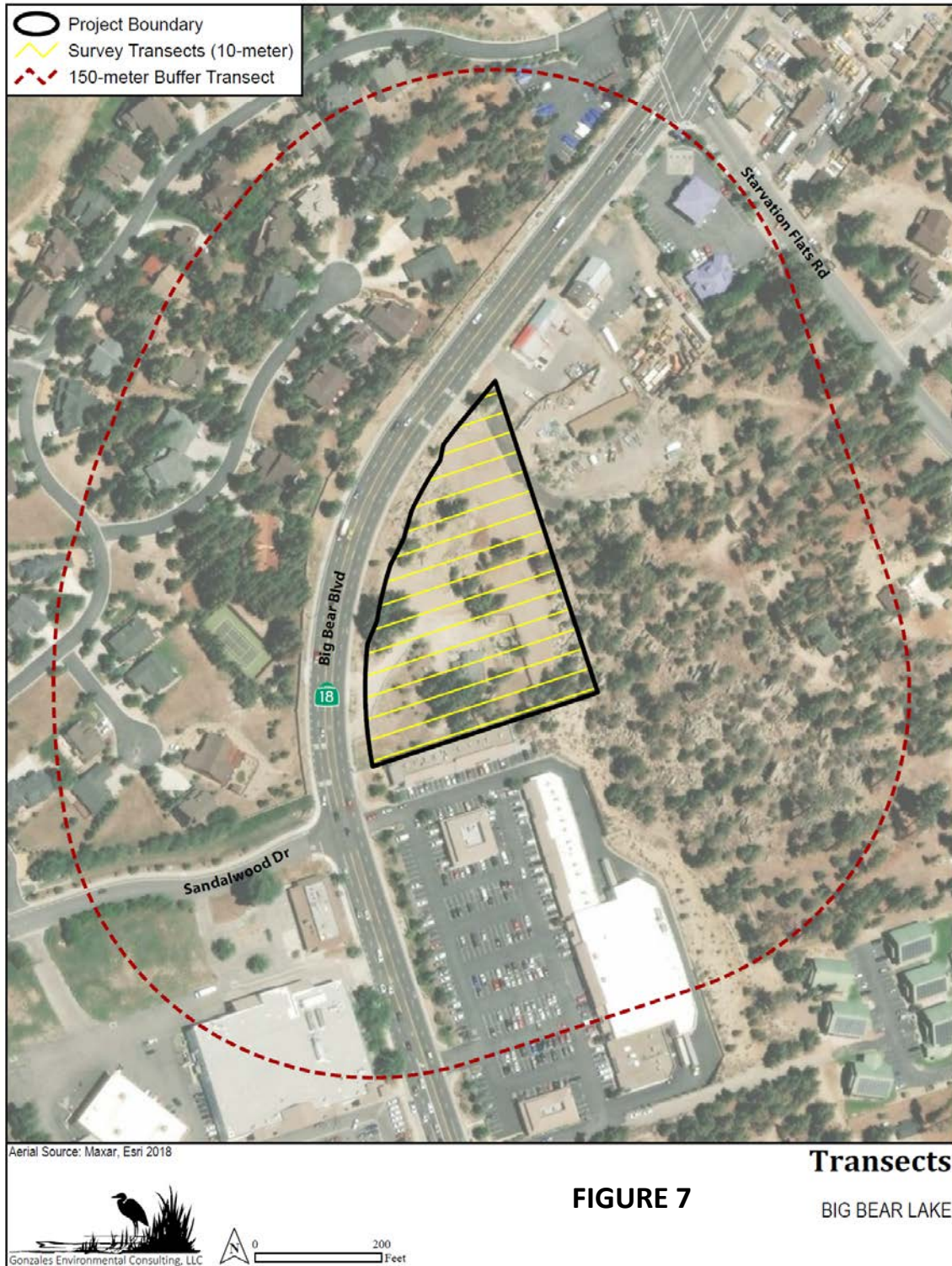
Weather during the surveys was as follows:

TABLE 3

SURVEY SUMMARY

Date	Air Temp	Wind Speed/ Direction	Cloud Cover	Precipitation	Duration
May 23	45/68F	0-5 mph/SE	0	0	3 hrs
May 31	41/64F	0-9 mph/SW	0	0	3 hrs
June 1	40/64F	0-1 mph/NE	30%cloud cover	0	3 hrs

Surveys began at 6:30 AM and ended at 9:30 AM.



VI. GENERAL BIOLOGICAL SURVEY RESULTS

A. Plant associations

On the project site the habitat is best characterized as *Pinus ponderosa* (Ponderosa pine forest) Alliance. On the project site the habitat is best characterized as disturbed, *Ericameria nauseosa* (Rubber rabbitbrush scrub) Alliance and *Pinus ponderosa* (Ponderosa pine forest) Alliance. The most abundant plants on the site are Ponderosa pine (*Pinus ponderosa*), Bernardina rabbitbrush (*Ericameria nauseosa* var *bernardina*), Sierra juniper (*Juniperus grandis*), and a mixture of native [mat muhly (*Muhlenbergia richardsonis*), beardless wild rye (*Elymus triticoides*), muttongrass (*Poa fendleriana*), pine bluegrass (*Poa secunda* ssp. *secunda*), small fescue (*Festuca microstachys*), and non-native grasses [Japanese chess (*Bromus japonicas*), and cheatgrass (*Bromus tectorum*)]. The locations of the native plant communities within the project footprint have been impacted by anthropogenic activities in the area, and mostly consist of compacted disturbed areas. The existing plant communities are described in more detail below.

Disturbed/Developed

The disturbed area on the project site encompasses the existing dirt roads, parking, and developed areas.

Pinus ponderosa Woodland Alliance

Habitat dominated by Ponderosa pine (*Pinus ponderosa*) is dominant or co-dominant in the tree canopy with *Abies concolor*, *Calocedrus decurrens*, *Juniperus grandis*, *Juniperus occidentalis*, *Notholithocarpus densiflorus*, *Pinus contorta* ssp. *murrayana*, *Pinus coulteri*, *Pinus jeffreyi*, *Pinus lambertiana*, *Pseudotsuga menziesii*, *Quercus chrysolepis*, *Quercus kelloggii* and *Quercus wislizeni*. Trees are less than 50 meters high, with a continuous canopy. Shrub layer is open to continuous. Herbaceous layer is sparse, abundant or grassy. On-site this alliance is in islands with *Pinus coulteri*, *Juniperus grandis* and sparse shrub and herbaceous layers.

Ericameria nauseosa var *bernardina* Alliance (Disturbed)

Ericameria nauseosa var *bernardina* Alliance is a medium, open, upland scrub habitat dominated by Bernardina rabbitbush (*Ericameria nauseosa* var *bernardina*). The habitat is an understory to *Juniperus grandis* Woodland Alliance on the project site. On the project site the majority of this habitat has been disturbed by anthropogenic activities. There are scattered patches of it between dirt roads, parking areas and debris.

Landscape

Areas mapped as landscape include planted areas where ornamental landscaping has been installed as part of development or landscaping.

Landscaped is not included in the List of California Vegetation Alliances and Associations (CDFW 2020). Since it is dominated by non-native ornamental plantings, landscaped land has limited value and is not considered a special-status vegetation community.

TABLE 4
SUMMARY OF HABITAT TYPE AND PROJECT ACREAGE

Habitat Type	Acreage
Developed/Disturbed	1.470
<i>Ericameria nauseosa</i> (Rubber rabbitbrush scrub) Alliance	0.238
Landscape	0.430
<i>Pinus ponderosa</i> (Ponderosa pine forest) Alliance	0.640
Rock outcrop	0.151
TOTAL (acres)	2.929

B. Biological resources map

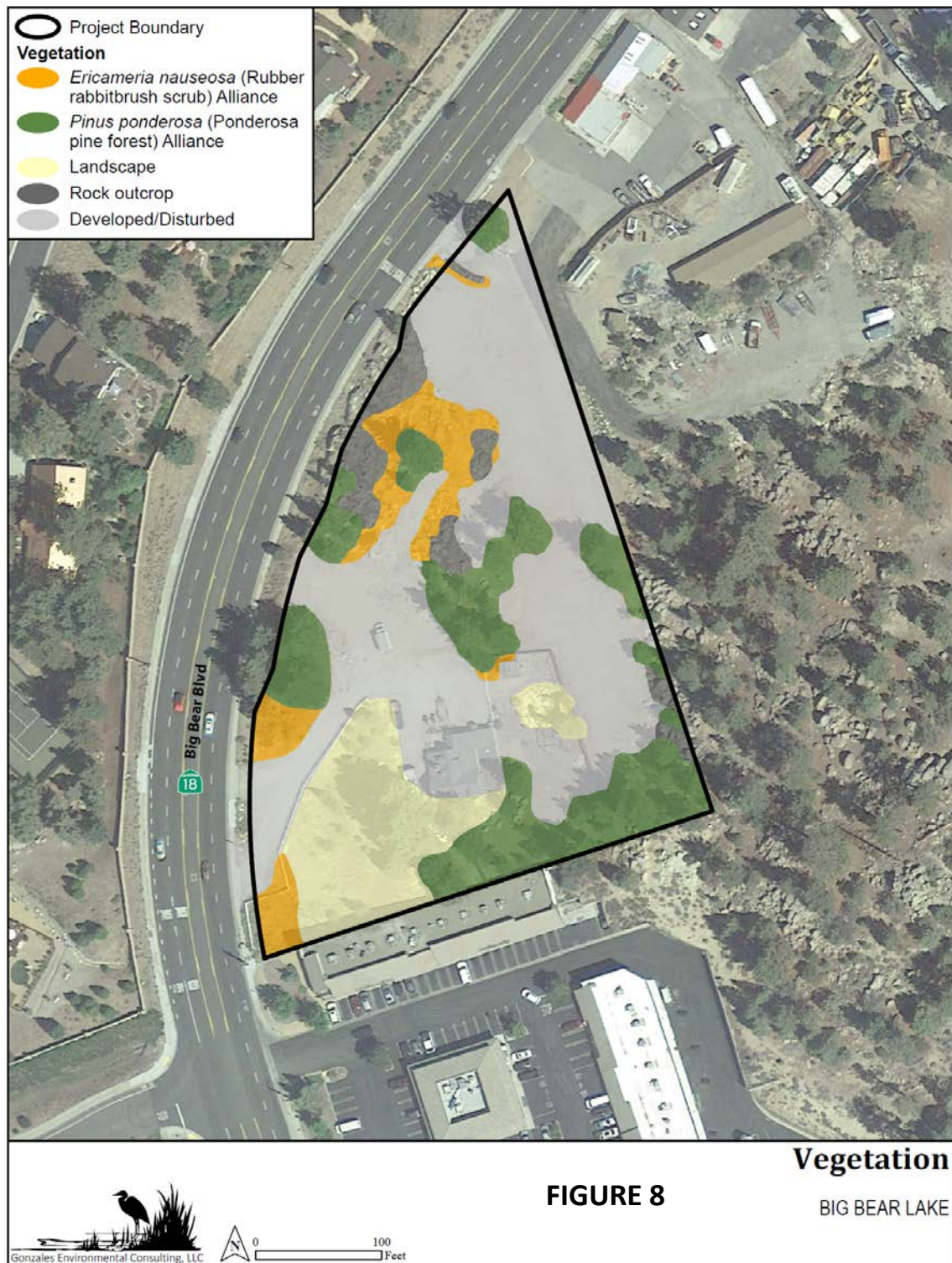


TABLE 5
PLANTS OBSERVED ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS/REGIONAL STATUS	NATIVE SPECIES	OBSERVATION TYPE
CUPRESSACEAE				
<i>Juniperus grandis</i>	Sierra juniper	No	Yes	Visual
PINACEAE				
<i>Pinus coulteri</i>	Coulter pine	No	Yes	Visual
<i>Pinus ponderosa</i>	Ponderosa pine	No	Yes	Visual
AMARANTHACEAE				
<i>Amaranthus biltoides</i>	Mat amaranth	No	Yes	Visual
ASTERACEAE				
<i>Achillea millefolium</i>	Common yarrow	No	Yes	Visual
<i>Artemisia drancunculus</i>	Tarragon	No	Yes	Visual
<i>Artemisia ludoviciana</i>	Great Basin sagebrush	No	Yes	Visual
<i>Artemisia rothrockii</i>	Rothrock sagebrush	No	Yes	Visual
<i>Artemisia tridentata</i>	Common sagebrush	No	Yes	Visual
<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush	No	Yes	Visual
<i>Ericameria nauseosa</i> var. <i>bernardina</i>	Bernardina rabbitbrush	No	Yes	Visual
<i>Madia elegans</i>	Common madia	No	Yes	Visual
<i>Erigeron divergens</i>	Diffuse daisy	No	Yes	Visual
BORAGINACEAE				
<i>Cryptantha circumscissa</i>	Cushion cryptantha	No	Yes	Visual
<i>Cryptantha micrantha</i>	Purple root cryptantha	No	Yes	Visual
<i>Nemophila menziesii</i>	Baby blue eyes	No	Yes	Visual
<i>Phacelia davidsonii</i>	Davidson's phacelia	No	Yes	Visual
BRASSICACEAE				
* <i>Descurainia sophia</i>	Flix weed	No	No	Visual
* <i>Lepidium perfoliatum</i>	Shield cress	No	No	Visual
<i>Lepidium virginicum</i>	Wild peppergrass	No	Yes	Visual
CONVOLVULACEAE				
<i>Calystegia occidentalis</i>	Sonora morning glory	No	Yes	Visual
CHENOPODIACEAE				

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS/REGIONAL STATUS	NATIVE SPECIES	OBSERVATION TYPE
<i>Atriplex rosea</i>	Redscale	No	Yes	Visual
<i>Chenopodium desiccatum</i>	Dry goosefoot	No	Yes	Visual
EUPHORBIACEAE				
<i>Euphorbia serpillifolia</i>	Thyme-leaved spurge	No	Yes	Visual
FABACEAE				
<i>*Melilotus indicus</i>	Annual yellow sweetclover	No	No	Visual
<i>Lupinus lepidus</i> var. <i>confertus</i>	Clustered tidy lupine	No	Yes	Visual
<i>Astragalus purshii</i> var. <i>lectulus</i>	Woollypod milkvetch	No	Yes	Visual
LAMIACEAE				
<i>Scutellaria siphocampyloides</i>	Gray leaved Skullcap	No	Yes	Visual
ONAGRACEAE				
<i>Epilobium brachycarpum</i>	Tall annual willow herb	No	Yes	Visual
OROBANCHACEAE				
<i>Castilleja applegatei</i>	Pine indian paintbrush	No	Yes	Visual
<i>Castilleja minor</i>	Lesser indian paintbrush	No	Yes	Visual
POLYGONACEAE				
<i>Eriogonum umbellatum</i> var. <i>munzii</i>	Munz's buckwheat	No	Yes	Visual
RANUNCULACEAE				
<i>*Ranunculus testiculatus</i>	Tubercled crowfoot	No	No	Visual
RHAMNACEAE				
<i>Ceanothus integerrimus</i>	Deer brush	No	Yes	Visual
ROSACEAE				
<i>Horkelia rydbergii</i>	Rydberg's horkelia	No	Yes	Visual
<i>Potentilla anserine</i>	Silverweed	No	Yes	Visual
<i>Potentilla wheeleri</i>	Wheeler's cinquefoil	No	Yes	Visual
POACEAE				
<i>Muhlenbergia richardsonis</i>	Mat muhly	No	Yes	Visual
<i>Elymus triticoides</i>	Beardless wild rye	No	Yes	Visual
<i>*Bromus japonicus</i>	Japanese chess	No	No	Visual
<i>*Bromus tectorum</i>	Cheatgrass	No	No	Visual

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS/REGIONAL STATUS	NATIVE SPECIES	OBSERVATION TYPE
<i>Poa fendleriana</i>	Muttongrass	No	Yes	Visual
<i>Poa secunda</i> ssp. <i>secunda</i>	Pine bluegrass	No	Yes	Visual
<i>Festuca microstachys</i>	Small fescue	No	Yes	Visual
Legend:				
* Non-native				

TABLE 6
AVIAN SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	Observation Type	Population Size (observed #/# of visits) ¹
AVES	BIRDS				
ACCIPITRIDAE	HAWKS, EAGLES, HARRIERS, OSPREY				
<i>Buteo jamaicensis</i>	Red-tailed hawk	No	Yes	Visual	1
<i>Haliaeetus leucocephalus</i>	bald eagle	Yes/SE/FP	Yes	Possible foraging	
<i>Aquila chrysaetos</i>	Golden eagle	Yes/WL/FP	Yes	Low chance- foraging only	
<i>Accipiter cooperii</i>	Cooper's hawk	Yes/WL	Yes	Low chance	
FALCONIDAE	FALCONS				
<i>Falco sparverius</i>	American kestrel	No	Yes	Expected ²	
PHASIANIDAE	GROUSE AND QUAIL				
<i>Oreortyx pictus</i>	Mountain quail	No	Yes	Expected	
COLUMBIDAE	PIGEONS AND DOVES				
<i>Zenaida macroura</i>	Mourning dove	No	Yes	Visual	4
<i>Columbina passerina</i>	Common ground-dove	No	Yes	Visual	2
STRIGIDAE	TYPICAL OWLS				
<i>Megascops kennicottii</i>	Western screech-owl	No	Yes	Expected	
<i>Bubo virginianus</i>	Great horned owl	No	Yes	Expected	
<i>Asio otus</i>	Long-eared owl	No	Yes	Expected	
<i>Glaucidium gnoma</i>	Northern Pygmy-owl	No	Yes	Expected	
<i>Aegolius acadicus</i>	Northern Saw-whet owl	No	Yes	Expected	
<i>Psiloscops flammeolus</i>	Flammulated owl	No	Yes	Expected	
<i>Strix occidentalis</i>	California Spotted Owl	Yes/SSC/BCC	Yes	Expected	
<i>occidentalis</i>					
APODIDAE	SWIFTS				
<i>Chaetura vauxi</i>	Vaux's swift	No	Yes	Visual	2
<i>Aeronautes saxatalis</i>	White-throated swift	No	Yes	Expected	
TROCHILIDAE	HUMMINGBIRDS				
<i>Calypte anna</i>	Anna's hummingbird	No	Yes	Visual	2
<i>Calypte costae</i>	Costa's hummingbird	No	Yes	Low chance	
<i>Selasphorus sasin</i>	Allen's hummingbird	No	Yes	Visual	1
<i>Selasphorus rufus</i>	Rufous hummingbird	Yes/BCC	Yes	Low chance	
<i>Selasphorus calliope</i>	Calliope hummingbird	No	Yes	Expected	
PICIDAE	WOODPECKERS				
<i>Melanerpes formicivorus</i>	Acorn woodpecker	No	Yes	Visual	2
<i>Picoides nuttallii</i>	Nuttall's woodpecker	No	Yes	Visual	1
<i>Picoides albolarvatus</i>	White-headed woodpecker	No	Yes	Expected	
<i>Picoides villosus</i>	Hairy woodpecker	No	Yes	Visual	2
<i>Sphyrapicus thyroideus</i>	Williamson's sapsucker	No	Yes	Expected	

¹ Population size determined by the following formula: number of species divided by number of visits

² Observation type: Expected refers to species not observed during surveys but expected to be present on the project site

<i>Sphyrapicus ruber</i>	Red-breasted sapsucker	No	Yes	Expected	
<i>Colaptes auratus</i>	Northern flicker	No	Yes	Visual	1
TYRANNIDAE	TYRANT FLYCATCHERS				
<i>Contopus cooperi</i>	Olive-sided flycatcher	No	Yes	Visual	1
<i>Contopus sordidulus</i>	Western wood-pewee	No	Yes	Visual	2
HIRUNDINIDAE	SWALLOWS				
<i>Tachycineta bicolor</i>	Tree swallow	No	Yes	Expected	
<i>Tachycineta thalassina</i>	Violet-green swallow	No	Yes	Visual	1
CORVIDAE	CROWS & JAYS				
<i>Cyanocitta stelleri</i>	Stellar's jay	No	Yes	Visual	1
<i>Corvus corax</i>	Common raven	No	Yes	Visual	1
<i>Nucifraga columbiana</i>	Clark's Nutcracker	No	Yes	Expected	
PARIDAE	CHICKADEES AND TITMICE				
<i>Poecile gambeli</i>	Mountain chickadee	No	Yes	Visual	2
SITTIDAE	NUTHATCHES				
<i>Sitta canadensis</i>	Red-breasted nuthatch	No	Yes	Visual	1
<i>Sitta pygmaea</i>	Pygmy nuthatch	No	Yes	Expected	
CERTHIIDAE	CREEPERS				
<i>Certhia americana</i>	Brown creeper	No	Yes	Visual	2
TROGLODYTIDAE	WRENS				
<i>Troglodytes aedon</i>	House wren	No	Yes	Visual	1
MUSCICAPIDAE	THRUSHES AND ALLIES				
<i>Sialia currucoides</i>	Mountain bluebird	No	Yes	Visual	1
<i>Turdus migratorius</i>	American robin	No	Yes	Visual	2
EMBERIZIDAE	WARBLERS				
<i>Dendroica coronata</i>	Yellow-rumped warbler	No	Yes	Visual	1
<i>Oporornis tolmiei</i>	MacGillivray's warbler	No	Yes	Visual	1
CARDINALIDAE	CARDINALS				
<i>Piranga flava</i>	Hepatic tanager	Yes/BCC	Yes	Visual	1
<i>Piranga ludoviciana</i>	Western tanager	No	Yes	Visual	1
PARULIDAE	WARBLERS				
<i>Setophaga nigrescens</i>	Black-throated gray warbler	No	Yes	Visual	1
<i>Geothlypis trichas sinuosa</i>	Common Yellowthroat	Yes/BCC	Yes	Low chance	
FRINGILLIDAE	FINCHES				
<i>Spinus pinus</i>	Pine siskin	No	Yes	Visual	1
<i>Carduelis psaltria</i>	Lesser goldfinch	No	Yes	Expected	
<i>Spinus lawrencei</i>	Lawrence's goldfinch	No	Yes	Expected	
PASSERELLIDAE	SPARROWS				
<i>Melospiza melodia</i>	Song sparrow	Yes/BCC	Yes	Low chance	

Legend:

BCC=Bird of conservation concern

WL=Watch List

SE=State Endangered

FP= State Fully Protected

TABLE 7
REPTILE SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS/REGIONAL STATUS	NATIVE SPECIES	OBSERVATION TYPE	Population Size (observed #/# of visits) ³
COLUBRIDAE					
<i>Charina umbratica</i>	Southern rubber boa	Yes	Yes	Possible	
<i>Diadophis punctatus modestus</i>	San Bernardino Ring-necked Snake	Yes/USFS WL	Yes	Expected ⁴	
<i>Lampropeltis zonata(parvirubra)</i>	California Mountain kingsnake	No	Yes	Possible	
<i>Thamnophis elegans elegans</i>	Mountain gartersnake	No	Yes	Expected	
<i>Crotalus oreganus helleri</i>	Southern Pacific rattlesnake	No	Yes	Possible	
ANGUIDAE					
<i>Elgaria multicarinata webbii</i>	San Diego Alligator Lizard	No	Yes	Expected	
PHRYNOSOMATIDAE					
<i>Sceloporus graciosus vandenburgianus</i>	Southern sagebrush lizard	No	Yes	Expected	

³ Population size determined by the following formula: number of species divided by number of visits

⁴ Observation type: Expected refers to species not observed during surveys but expected to be present on the project site

TABLE 8
MAMMAL SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	Observation Type	Population Size (observed #/# of visits) ⁵
SCIURIDAE	SQUIRRELS				
<i>Glaucomys oregonensis</i>	San Bernardino flying squirrel	No	Native	Possible ⁶	
<i>Tamias speciosus</i>	Lodgepole chipmunk	No	Native	Possible	
<i>Sciurus griseus</i>	Western gray squirrel	No	Native	Possible	
VESPERTILIONIDAE	VESPER BATS				
<i>Myotis volans</i>	long-legged myotis	SCC	Native	Low chance	
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SCC	Native	Low chance	
PROCYONIDAE	RACCOONS				
<i>Procyon lotor psora</i>	California raccoon	No	Native	Expected	
FELIDAE	CATS				
<i>Lynx rufus</i>	Bobcat	No	Native	Expected	
CANIDAE	FOXES, WOLVES AND COYOTES				
<i>Canis latrans</i>	Coyote	No	Native	Expected	
<i>Urocyon cinereoargenteus</i>	Gray fox	No	Native	Expected	
URSIDAE	BEARS				
<i>Ursus americanus</i>	Black bear	No	Native	Expected	
CERVIDAE	ELKS, MOOSE, CARIBOU, DEER				
<i>Odocoileus hemionus</i>	Mule deer	No	Native	Expected	

⁵ Population size determined by the following formula: number of species divided by number of visits

⁶ Observation type: Expected refers to species not observed during surveys but expected to be present on the project site

TABLE 9
INSECT SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	Observation Type	Population Size (observed #/# of visits) ⁷
APIDAE					
<i>Bombus crotchii</i>	Crotch bumble bee	State Candidate endangered/ G3G4; S1S2	Native	Low chance ⁸	

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

⁷ Population size determined by the following formula: number of species divided by number of visits

⁸ Observation type: Low chance refers to species not observed during surveys and have a low chance of being present on the project site

VII. RARE, ENDANGERED OR SENSITIVE SPECIES AND HABITATS RESULTS

According to the CNDDDB, no special-status species have been documented on the proposed project site (Rarefind 5 2020). However, twenty-seven special-status species have been documented within one mile of the proposed project site (See Table 10). We did not detect any special-status species at the site during our field assessment.

TABLE 10
FAWNSKIN QUADRANGLE SENSITIVE STATUS SPECIES WITHIN ONE MILE OF THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFG	CNPS
<i>Neotamias speciosus speciosus</i>	lodgepole chipmunk	None	None	-	-
<i>Charina umbratica</i>	southern rubber boa	None	Threatened	-	-
<i>Castilleja cinerea</i>	ash-gray paintbrush	Threatened	None	-	1B.2
<i>Navarretia peninsularis</i>	Baja navarretia	None	None	-	1B.2
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocoma	None	None	-	1B.2
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	None	None	-	1B.2
<i>Phlox dolichantha</i>	Big Bear Valley phlox	None	None	-	1B.2
<i>Eremogone ursina</i>	Big Bear Valley sandwort	Threatened	None	-	1B.2
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	None	None	-	1B.2
<i>Sidalcea pedata</i>	bird-foot checkerbloom	Endangered	Endangered	-	1B.1
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	Endangered	None	-	1B.1
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	None	None	-	1B.3
<i>Lilium parryi</i>	lemon lily	None	None	-	1B.2
<i>Erythranthe purpurea</i>	little purple monkeyflower	None	None	-	1B.2
<i>Boechera parishii</i>	Parish's rockcress	None	None	-	1B.2
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	None	None	-	2B.2
<i>Poa atropurpurea</i>	San Bernardino blue grass	Endangered	None	-	1B.2
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	Endangered	None	-	1B.1
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	None	None	-	1B.2
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	None	None	-	1B.2
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None	None	-	1B.2
<i>Packera bernardina</i>	San Bernardino ragwort	None	None	-	1B.2
<i>Boechera shockleyi</i>	Shockley's rockcress	None	None	-	2B.2
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	None	None	-	2B.2
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None	None	-	1B.2
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	Endangered	Endangered	-	1B.1
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	Threatened	None	-	1B.2

Legend:

CDFG=California Department of Fish and Game

CNPS List= California Native Plant Society

C=Candidate

E=Endangered

T=Threatened

WL=Watchlist

FP=Fully Protected

SSC=Species of Special Concern

CNPS 1B= Rare or Endangered In California and Elsewhere

CNPS 2=Plants rare, threatened, endangered in California, more common elsewhere

CNPS 3= Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

CNPS 4=Plants of limited distribution

New Threat Code extensions and their meanings:

- .1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 – Fairly endangered in California (20-80% occurrences threatened)
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Sensitive Habitat

Pebble Plains habitat is listed by the California Department of Fish and Wildlife as sensitive habitat in the Fawnskin quadrangle. We found no sensitive habitat on the project site.

Sensitive Species

Plants

Reference populations were visited prior to conducting the field surveys to verify that the target species were in bloom and identifiable. Field survey personnel are familiar with the sensitive species listed. The survey team visited reference populations for Bear Valley pyrocoma (*Pyrocoma uniflora* var. *gossypina*), Big Bear Valley milk-vetch (*Astragalus lentiginosus* var. *sierra*), Big Bear Valley sandwort (*Eremogone ursina*), Big Bear Valley woollypod (*Astragalus leucolobus*), bird-foot checkerbloom (*Sidalcea pedata*), California dandelion (*Taraxacum californicum*), little purple monkeyflower (*Erythranthe purpurea*), Parish's yampah (*Perideridia parishii* ssp. *parishii*), San Bernardino blue grass (*Poa atropurpurea*), San Bernardino Mountains bladderpod (*Physaria kingii* ssp. *bernardina*), San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*), San Bernardino ragwort (*Packera bernardina*), Shockley's rockcress (*Boechera shockleyi*), short-sepaled lewisii (*Lewisia brachycalyx*), slender-petaled helypodium (*Thelypodium stenopetalum*), and grey-leaved violet (*Viola pinetorum* ssp. *grisea*). Each of these target species were in bloom and identifiable during the focused botanical surveys. The focused botanical surveys included multiple site visits and spanned two months; May and June, 2020. No survey limitations are identified. The surveys occurred during the appropriate blooming periods for each target species following a poor rain-fall year and were conducted by a team of qualified biologists. The survey results found no sensitive plant species on the project site or in adjacent areas. All of the other special species identified as having a moderate to high occurrence potential, were absent during the surveys.

Plants

We did not detect any special-status plant species during our surveys. In the subsequent text, we list special-status plant species documented within the Fawnskin quadrangle, and we discuss each species' possibility of occurring at the project site.

TABLE 11
FAWNSKIN QUADRANGLE SENSITIVE STATUS PLANT SPECIES

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Eriogonum umbellatum</i> var. <i>minus</i>	alpine sulphur-flowered buckwheat	None/None	4.3	Lodgepole forest, subalpine forest, red fir forest.	The nearest documented occurrence for this species is from approx. 15 miles N of the project site. There is no potential for this species to occur on the project site.
<i>Castilleja cinerea</i>	ash-gray paintbrush	T/None	1B.2	Pebble plains, upper montane coniferous forest, Mojavean desert scrub, meadows, pinyon and juniper woodland. Endemic to the San Bernardino Mountains, in clay openings; often in meadow edges. 725-2745 m.	The nearest documented occurrences for this species is a historical collection (1979 and 1980) from Castle Glen area. There is low potential for this species to occur on the project site.
<i>Navarretia peninsularis</i>	Baja navarretia	None/None	1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, pinyon and juniper woodland. Wet areas in open forest. 1150- 2365 m.	The habitat this species is associated with does not exist within the project area. There is a historic collection (1936) from approx. 0.5 miles W of the project site. There is no potential for this species to occur on the project site.
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocoma	None/None	1B.2	Pebble plain, meadows and seeps. Meadows, meadow edges, and along streams in or near pebble plain habitat. 2040-2280 m.	The nearest documented occurrence for this species is a historical collection (1979) near the entrance to Fawnskin airport. There is no potential for this species to occur on the project site.
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	None/None	1B.2	Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, upper montane coniferous forest. Stony meadows and open pinewoods; sandy and gravelly soils in a variety of habitats. 1710-3230 m.	The nearest documented occurrence for this species is in 1938 from ½ mile E of the project site. There is low potential for this species to occur on the project site, we found Woollypod milkvetch on site, no Big Bear Valley milk-vetch.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Phlox dolichantha</i>	Big Bear Valley phlox	None/None	1B.2	Pebble plains, upper montane coniferous forest. Sloping hillsides, in shade under pines and <i>Quercus kelloggii</i> , with heavy pine litter; also in openings. 1980- 2805 m.	The habitat this species is typically associated with does not exist within the project area. Two occurrences are within 1 mile of the project area; Castle Glen Preserve, Big Bear Lake; and, near Heavenly Valley Drive, between Pineknott Campground and Simmons Trout Lake, San Bernardino Mountains. There is no potential for this species on the project site.
<i>Eremogone ursina</i>	Big Bear Valley sandwort	T/None	1B.2	Pebble plain, pinyon and juniper woodland, meadows and seeps. Mesic, rocky sites. 1795-2895 m.	The habitat this species is typically associated with does not exist within the project area. Two occurrences are within 1 mile of the project area; the documented occurrence for this species is in 1981 from Rebel Ridge south of SR 18, Bear Valley; also from 1981 southwest of Eagle Point, Big Bear Lake . There is no potential for this species on the project site.
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	None/None	1B.2	Lower montane coniferous forest, pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt. 1460-2895 m.	There are five documented occurrences for this species within one mile of the project site. Locations include: east of Eagle Point, South side of Big Bear Lake, San Bernardino Mountains; Rebel Ridge, Castle Gen Preserve, Big Bear Lake; North of Highway 38, 0.3 to 1.1 miles east of Stanfield cutoff, north of big Bear Lake, San Bernardino Mountains; Both sides of Highway 38 north of Big Bear Lake, from Big Bear Ranger Station to Stanfield Cutoff; and just southwest of Peak 7105, west end of Rebel Ridge, Castle Glen Preserve, Big Bear Lake. However,

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					focused surveys conducted within the project area in spring of 2020 were negative for this species. Therefore, this species is considered absent from the project area at the time of survey.
<i>Sidalcea pedata</i>	bird-foot checkerbloom	E/E	1B.1	Meadows and seeps, pebble plains. Vernal mesic sites in meadows or pebble plains. 1840- 2305 m.	The habitat this species is typically associated with does not exist within the project area. There is one documented occurrence for this species in 2012 from just west of Eagle Point to just East of Stanfield Cutoff, Big Bear Lake. Focused surveys conducted within the project area in spring 2020 were negative for this species. There is no potential for this species on the project site.
<i>Taraxacum californicum</i>	California dandelion	E/None	1B.1	Meadows and seeps. Mesic meadows, usually free of taller vegetation. 1620-2590 m.	The habitat this species is typically associated with does not exist within the project area. There are five documented occurrences within one mile of the project. The locations are: South shore of Big Bear Lake, west of sewage disposal facility, between Eagle Point and Stanfield Cutoff, San Bernardino Mountains, Northeast end of Big Bear Lake, 0.6 air mile southwest of Blue Quartz Mine, west of Big Bear City; North edge of Big Bear Lake, 0.5 mile west of North Shore School, San Bernardino Mountains; South of Big Bear Ranger Station, 1 mile west of North Shore School, North edge of Big Bear Lake, San Bernardino Mountains; Big Bear Lake, east of the sewage disposal facility, between Eagle Point and Stanfield Cutoff. There is no

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					potential for this species on the project site.
<i>Sidotheca caryophylloides</i>	chickweed oxytheca	None/None	4.3	Yellow pine forest with sand or gravel between 1300–2600 meters	Appropriate habitat is on site. Last known occurrence is adjacent to the project site and is from 1927 in a sandy open flat. There is no potential for this species on the project site.
<i>Abronia nana</i> var. <i>covillei</i>	Coville's dwarf abronia	None/None	4.2	Dry sandy places in Sagebrush Scrub, Joshua Tree Woodland, Lodgepole Forest, Red Fir Forest, Pinyon-Juniper Woodland. 1600--2800 m.	Appropriate habitat is on site. Last known occurrence is adjacent to the project site and is from 1937 in a sandy open flat. There is no potential for this species on the project site.
<i>Astragalus bicristatus</i>	crested milk-vetch	None/None	4.3	Open rocky area in Yellow Pine Forest. 1700--2750 m.	Appropriate habitat is on site. Last closest occurrence is in San Bernardino National Forest, northeast of Big Bear Lake, along a small forest service road in the community of Minnelusa, approximately 1 air mile east of the Big Bear Discovery Center. There is no potential for this species to occur on site.
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	E/None	1B.1	Mojavean desert scrub, pinyon and juniper woodland, Joshua tree woodland. Limestone mountain slopes. Dry, usually rocky places. 1430-2440 m.	The habitat this species is typically associated with does not exist within the project area. There is one known occurrence within one mile of the project site. It is located at the vicinity of Blue Quartz Mine and east end of Bertha Ridge, west side of Van Dusen Canyon, San Bernardino Mountains. There is no potential for this species to occur on site.
<i>Astragalus albens</i>	Cushenbury milk-vetch	E/None	1B.1	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy or stony flats, rocky hillsides, canyon washes, and fans, on	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
				carbonate or mixed granitic-calcareous debris. 1185-1950 m.	
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	E/None	1B.1	Pinyon and juniper woodland. On limestone talus and rocky slopes. 1400-2380 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Sedum niveum</i>	Davidson's stonecrop	None/None	4.2	Rocky ledges, crevices in Red Fir Forest. 2100--3000 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Cordylanthus eremicus</i> ssp. <i>eremicus</i>	desert bird's-beak	None/None	4.3	Creosote Bush Scrub, Joshua Tree Woodland, wetland-riparian. 1000--2800 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Claytonia peirsonii</i> ssp. <i>californacis</i>	Furnace spring beauty	None/None	1B.1	Gravelly woodland, meadows. 1500-2600m	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	None/None	1B.3	Subalpine coniferous forest, upper montane coniferous forest, meadows and seeps. Dry mountain peaks and slopes. 1580- 3700 m.	The habitat this species is typically associated with does not exist within the project area. There is one known historic occurrence from 1886 within one mile of the project site. It was located at Bear Valley, San Bernardino Mountains. There is no potential for this species to occur on site.
<i>Castilleja montigena</i>	Heckard's paintbrush	None/None	4.3	Dry, rocky, open slopes and flats in open forest, pinyon/juniper woodland; Lodgepole Forest, Red Fir Forest, Yellow Pine Forest. 1800--2900 m.	The habitat (Pinyon/juniper woodland) this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	None/None	1B.3	Subalpine coniferous forest, upper montane coniferous	The habitat this species is typically associated with does not exist

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
				forest. Slopes and ridges on granite or limestone. 1829-2926 m.	within the project area. There is no potential for this species to occur on site.
<i>Diplacus johnstonii</i>	Johnston's monkeyflower	None/None	4.3	Road banks, disturbed areas, especially scree; Elevation: generally 975--2920 m.	There is one known historic occurrence from 1938 within three miles of the project site. It was located at southwest of the project site in the San Bernardino Mountains. There is no potential for this species to occur on site.
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	None/None	4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as stream sides or roadcuts. 1440- 2500 m.	There are several known historic occurrence from 1895 within one miles of the project site. It was located at northern edge of Big Bear Lake near Stanfield cutoff. There is no potential for this species to occur on site.
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	None/None	1B.2	Chaparral, Mojavean desert scrub, pinyon and juniper woodland. Rocky or sandy substrate; sometimes in washes, sometimes limestone. 120-2200 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Lilium parryi</i>	lemon lily	None/None	2B.3	Lower montane coniferous forest, Meadow & seep, Riparian forest, Upper montane coniferous forest, Wetland	There is one known occurrence from 2008 within one mile of the project site. It was located at meadow near Eagle Point, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Erythranthe purpurea</i>	little purple monkeyflower	None/None	1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest. Dry clay or gravelly soils under Jeffrey pines, along annual streams or vernal springs and seeps. 2045-2290 m.	There are three known occurrences from 1980-1983 within one mile of the project site. Locations are: between Rathbone Creek and Stanfield Cutoff, west of SR 18, south shore of Big Bear Lake, San Bernardino Mountains;

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					Eagle Point Meadow, South shore of Big Bear Lake, between Eagle Point and Rathbone Creek, San Bernardino Mountains; and South of SR 18, 0.5 mile east of Stanfield Cutoff near east end of Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Dryopteris filix-mas</i>	Wedgeleaf male fern	None/None	2B.3	Granitic cliffs; Elevation: 2400--3100 m. Upper montane coniferous forest	The nearest historic (1882) location is Holcomb Valley, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Castilleja plagiotoma</i>	Mojave paintbrush	None/None	4.3	Sagebrush Scrub, Pinyon-Juniper Woodland. 300--2500 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Phacelia mohavensis</i>	Mojave phacelia	None/None	4.3	Sandy or gravelly soils, conifer forest; Riparian, meadows in Foothill Woodland, Yellow Pine Forest, Pinyon-Juniper Woodland. 900--2570 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Delphinium parryi</i> ssp. <i>purpureum</i>	Mt. Pinos larkspur	None/None	4.3	Sagebrush scrub, dry chaparral; Elevation: 1000--2600 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	None/None	1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow- pine forest, chaparral. 485-2500 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Heuchera parishii</i>	Parish's alumroot	None/None	1B.3	Yellow Pine Forest, Red Fir Forest, Subalpine Forest, Alpine Fell-fields Rocky places; Elevation: 1500--3800 m.	The nearest historic (1820) location is Bear Valley, San Bernardino Mountains. However, focused surveys conducted within the project area in spring of 2020 were negative for this species. Therefore, this species is considered absent from the project area at the time of survey.
<i>Erigeron parishii</i>	Parish's daisy	T/None	1B.1	Mojavean desert scrub, pinyon and juniper woodland. Often on carbonate; limestone mountain slopes; often associated with drainages. Sometimes on granite. 1050-1950 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Allium parishii</i>	Parish's onion	None/None	4.3	Open, rocky slopes in Joshua Tree Woodland. 900--1400 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Boechera parishii</i>	Parish's rockcress	None/None	1B.2	Pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Generally found on pebble plains on clay soil with quartzite cobbles; sometimes on limestone. 1825-2805 m.	Two documented occurrences (1980 and 1984) for this species occurred within one mile of the project site. Castle Glen southeast of Big Bear Lake; and at east end of Eagle View Drive, 0.5 mile east of Eagle Point, City of Big Bear Lake, San Bernardino Mountains. However, focused surveys conducted within the project area in spring of 2020 were negative for this species. Therefore, this species is considered absent from the project area at the time of survey.
<i>Rupertia rigida</i>	Parish's rupertia	None/None	4.3	Chaparral, Foothill Woodland, Yellow Pine Forest. < 2500 m.	There is one known occurrence from 1996 within two miles of the project site. It was located at San Bernardino Mtns., shooting range 0.7 mile north of State Hwy 38, at

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					NW edge of Big Bear City. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	None/None	2B.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Damp meadows or along streambeds- prefers an open pine canopy. 1470-2530 m.	One documented occurrence (2010) for this species occurred within one mile of the project site. The location was Eagle Point along south side of Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Hulsea vestita</i> ssp. <i>parryi</i>	Parry's hulsea	None/None	4.3	Alpine boulder and rock field, subalpine coniferous forest. Gravelly sites; on granite. 2860-3502 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Fritillaria pinetorum</i>	pine fritillary	None/None	4.3	Shaded granitic slopes in Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Subalpine Forest. 1800--3200 m.	Three documented occurrences (unknown dates) for this species occurred within one mile of the project site. The location was Bear Valley, San Bernardino Mountains for all three locations. However, focused surveys conducted within the project area in spring of 2020 were negative for this species. Therefore, this species is considered absent from the project area at the time of survey.
<i>Fraseria neglecta</i>	pine green-gentian	None/None	4.3	Dry, open woodland in Yellow Pine Forest, Pinyon-Juniper Woodland. 1400--2500 m.	One documented occurrence (1947) for this species occurred within one mile of the project site. The location was Grade between Bear Valley and Holcomb Valley, San Bernardino Mountains. The

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	None/None	2B.2	Mojavean desert scrub, pinyon and juniper woodland. Sandy or gravelly places. 765-2195 m.	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Poa atropurpurea</i>	San Bernardino blue grass	E/None	1B.2	Meadows and seeps. Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. 1255-2655 m.	Two documented occurrences (1981 and 2012) for this species occurred within one mile of the project site. The locations were south shore of Big Bear Lake, between Eagle Point and Stanfield Cutoff, San Bernardino Mountains; and, between SR 18 and Big Bear City Airport, west of Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	None/None	1B.2	Stony areas among desert shrubs, junipers; Joshua tree woodland, pinyon and juniper woodland. Granitic or carbonate substrates. 275-2286 m.	The nearest documented occurrence (1924) for this species occurred above Baldwin Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	E/None	1B.1	Pinyon and juniper woodland, lower montane coniferous forest, subalpine coniferous forest. Dry sandy to rocky carbonate soils. 1850-2700 m.	The nearest documented occurrence (2012) for this species occurred east end Big Bear Lake from Van Dusen Canyon to Bertha Ridge and south toward Lake Shore, San Bernardino Mountains. The habitat this species is typically

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	None/None	1B.2	Pebble (pavement) plain, upper montane coniferous forest, pinyon and juniper woodland. Outcrops, granite or quartzite, rarely limestone. 1200-2425 m.	The nearest documented occurrence (2012) within one mile of the project site for this species occurred 0.1 mile north of North Shore Drive (SR 38), 0.2 mile east of Bear Loop Road, Big Bear City. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	None/None	1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Seeps and sandy sometimes disturbed soil in moist drainages of annual streams; clay soils. 2060-2630 m.	This species has been documented within one mile of the project site. Documented in 1980 and 1983 occurred Eagle Point Meadow, southern shore of Big Bear Lake just east of Oriole Drive, Big Bear Lake just east of Oriole Drive, Big Bear City, San Bernardino Mountains; and Castle Glen Preserve, near east end of Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None/None	1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland. Mesic to drying soils in open areas of stream and meadow margins or in vernal wet areas. 1140-2320 m.	This species has been documented within one mile of the project site. Documented in 1980 and 1983 occurred Eagle Point Meadow, southern shore of Big Bear Lake just east of Oriole Drive, Big Bear Lake just east of Oriole Drive, Big Bear City, San Bernardino Mountains; and Castle Glen

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					Preserve, near east end of Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Packera bernardina</i>	San Bernardino ragwort	None/None	1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Mesic, sometimes alkaline meadows, and dry rocky slopes. 1615-2470 m.	This species has been documented within one mile of the project site. Documented in 1980, 1988 and 2009 occurred Eagle Point Meadow, south shore of Big Bear Lake between Eagle Point and Rathbone Creek, San Bernardino Mountains; Castle Glen, on south side of SR 18 between Stanfield Cutoff and Big Bear City, San Bernardino Mountains; and Northeast end of Big Bear Lake, south side of SR 38 between Bear Loop and North Division Drive, Big Bear City. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Claytonia peirsonii</i> ssp. <i>bernardinus</i>	San Bernardino spring beauty	None/None	1B.1	Limestone, Pinon & juniper woodlands, Talus slope, Upper montane coniferous forest	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Erigeron breweri</i> var. <i>jacintus</i>	San Jacinto Mountains daisy	None/None	4.3	Lodgepole Forest, Subalpine Forest, Red Fir Forest. Open, rocky slopes and crests; Elevation: +- 2700--2900 m.	This species has been documented within one mile of the project site. Documented in 2013 it occurred San Bernardino National Forest; southwest side of Big Bear Lake, about 0.25 air mile southwest of Castle Rock. There is low potential for this species to occur on the project site.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Boechera shockleyi</i>	Shockley's rockcress	None/None	2B.2	Pinyon and juniper woodland. On ridges, rocky outcrops and openings on limestone or quartzite. 875-2515 m.	This species has been documented within one mile of the project site. Documented in 2013 it occurred on the south slope of Bertha Ridge, about 0.3 mile west and southwest of Blue Quartz Mine, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	None/None	2B.2	Lower montane coniferous forest, meadows and seeps. Dry to moist meadows in rich loam. 1370-2450 m.	This species has been documented within one mile of the project site. Documented in 2009 it occurred on the south shore of Big Bear Lake, just east of Eagle Point, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None/None	1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. In pebble plains and meadows with other rare plants. 1490-2960 m.	This species has been documented within one mile of the project site. Documented in 1967, 1979 and 2012 it occurred on Eagle Point south shore of Big Bear Lake, San Bernardino Mountains; Rebel Ridge at Big Bear Lake, San Bernardino Mountains; and, Between Stanfield Cutoff and Eagle Point, just northwest of BM 6764, Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Galium angustifolium</i> ssp. <i>gracillimum</i>	slender bedstraw	None/None	4.2	Shaded places among granite boulders in canyons, on outcrops in Creosote Bush Scrub, Joshua Tree Woodland. 130--1550 m.	This species has been documented within five miles of the project site. Documented in 2014 it occurred on San Bernardino National Forest; Bighorn Mountains; collecting in Arrastre Creek on the west side of Lone Valley. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
			1B.1		
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	E/E		Meadows and seeps. Seasonally moist alkaline clay soils; associated with seeps and springs in the pebble plains. 2045-2240 m.	This species has been documented within one mile of the project site. Documented in 1980, 1983 and 2010 it occurred just east of Eagle Point south shore of Big Bear Lake, San Bernardino Mountains; Margin of Big Bear Lake at east end of south side, west of Big Bear City from Forest to lake margin, San Bernardino Mountains; and, Just west of Stanfield Cutoff between Rathbone Creek and SR 18, South shore Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
			1B.2		
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain buckwheat	T/None		Pebble (pavement) plain, lower montane coniferous forest. Usually found in pebble plain habitats. 1765-3020 m.	This species has been documented within one mile of the project site. Documented in 2012 it occurred in the vicinity of Eagle Point Big Bear Lake, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Eriophyllum lanatum</i> var. <i>obovatum</i>	southern Sierra woolly sunflower	None/None	4.3	Lodgepole Forest, Red Fir Forest, Yellow Pine Forest. 1300--2500 m.	The nearest documented occurrence (1895) for this species occurred South slope, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Phacelia exilis</i>	Transverse Range phacelia	None/None	4.3	Sandy or rocky slopes, flats, meadows in Lodgepole Forest, Red Fir Forest, Yellow Pine Forest. 1100--2700 m.	The nearest documented occurrence (1922) for this species occurred on slopes and ravines in Bear Valley, San Bernardino Mountains. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	None/None	1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland. Sandy sites. 975-2240 m.	There is a 1931 museum collection for this species approx. 4 miles from the project site. All other documented occurrences for this species are in the vicinity of Holcomb Valley. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Dryocallis cuneifolia</i> var. <i>cuneifolia</i>	wedgeleaf woodbeauty	None/None	1B.1	Riparian scrub; Elevation: 1800--2200 m.	Documented over 10 miles from project site northwest side of Big Bear Lake, about 1.4 air miles east northeast from the summit of Butler Peak. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Carex scirpoidea</i> ssp. <i>pseudoscirpoidea</i>	western single-spiked sedge	None/None	2B.2	Subalpine Forest, Alpine Fell-fields. Rocky, occasionally limey seasonally wet places; Elevation: 2100--3700 m.	Documented over 4 miles from project site San Bernardino NF, north shore of Big Bear Lake] Juniper Point Meadow East, from

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
					USFS Discovery Center, head east on Highway 38 for less than one mile and turn right into Juniper Point parking lot. Large meadow, primarily between Highway 38 and Big Bear. The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Johnstonella holoptera</i>	winged cryptantha	None/None	4.3	Creosote Bush Scrub, Joshua Tree Woodland	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
USFWS T/E (Not covered above)					
<i>Taraxacum californicum</i>	California Taraxacum	E	1B.1	Moist meadows in Yellow Pine Forest, wetland-riparian	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.
<i>Sidalcea pedata</i>	Pedate Checker-mallow	E	1B.1	Moist meadows in open woodland	The habitat this species is typically associated with does not exist within the project area. There is no potential for this species to occur on site.

Legend:

CDFG=California Department of Fish and Game

CNPS List= California Native Plant Society

C=Candidate

E=Endangered

T=Threatened

WL=Watchlist

FP=Fully Protected

SSC=Species of Special Concern

CNPS 1B= Rare or Endangered In California and Elsewhere

CNPS 2=Plants rare, threatened, endangered in California, more common elsewhere

CNPS 3= Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

CNPS 4=Plants of limited distribution

New Threat Code extensions and their meanings:

.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 - Fairly endangered in California (20-80% occurrences threatened)

.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

Wildlife

The habitat around City of Big Bear Lake and the lake is noted for its high bird species diversity and abundance. Water fowl depend on the lake and adjacent shoreline habitats for foraging and nesting.

The project site is located approximately 0.5 mile from Big Bear Lake when the Lake is at normal volume. During surveys the distance from the project site was over 0.5 mile from the lake perimeter. No water fowl dependent on the lake and adjacent shoreline habitats were observed on the project site during surveys.

The mature trees on the project site could be used by nesting raptors, however the distance from the water and anthropogenic activities on and adjacent to the site does not make it ideal for nesting. Bald eagles (BAEA), have long been documented to overwinter at Big Bear Lake. Since 2012, at least one resident pair has been documented, which have successfully nested. These eagles typically nest in the Fawnskin area of Big Bear Lake. Raptor species observed on the project site and adjacent habitats during surveys include red-tailed hawk (*Buteo jamaicensis*). Most common avian species observed were: Mourning dove (*Zenaida macroura*), Violet-green swallow (*Tachycineta thalassina*), Mountain chickadee (*Poecile gambelii*), and Brown creeper (*Certhia americana*). There were no mammals, reptiles or amphibians observed during surveys. No special status animals were observed during field surveys.

Reptiles

One special-status reptile species, southern rubber boa (*Charina umbratica*) has been documented in the vicinity of the project site (Rarefind 5-2020). During the site assessment we observed no special-status reptile species on the site. We determined that southern rubber boa has moderate potential to occur on the project site. In the subsection below, we discuss the reptile species that have been documented in the vicinity of the site.

TABLE 12
FAWNSKIN QUADRANGLE SENSITIVE STATUS REPTILE SPECIES

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Uma scoparia</i>	Mojave fringe-toed lizard	None/None	SSC	sparsely-vegetated arid areas with fine wind-blown sand, including dunes, flats with sandy hummocks formed around the bases of vegetation, washes, and the banks of rivers. Needs fine, loose sand for burrowing	There is no appropriate habitat on the project site. There is no potential for this species to occur on the project site.
<i>Charina umbratica</i>	southern rubber boa	None/ST	-	Known from the San Bernardino and San Jacinto Mountains; found in a variety of montane forest habitats. Oak-conifer and mixed-conifer forests at elevations between roughly 5,000 to 8,200 ft. where rocks and logs or other debris provide shelter; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	Due to the rocky outcrops and other potential rubber boa hibernacula, as well as the stockpiling of wooden boards and other objects that could potentially provide temporary cover for this species within the project area, rubber boa are likely to occupy the habitat within the project area. There is some suitable habitat adjacent portions of the project vicinity that could potentially support rubber boa and this species has been documented several times (1961-2017) within 1 mile of the project. Occurrence potential is moderate, due to the anthropogenic activities on-site.
<i>Thamnophis hammondi</i>	two-striped gartersnake	None/None	SSC	Permanent streams, although it also may occur in association with vernal pools	The microhabitat this species is typically associated with (Aquatic) does not exist within

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
				or intermittent creeks	the project site. There is no potential for this species on the project site.
USFWS T/E					
<i>Gopherus agassizii</i>	Desert Tortoise	T/T	-	Sandy flats to rocky foothills, including alluvial fans, washes and canyons where suitable soils for den construction might be found. It is found from near sea level to around 3,500 feet in elevation.	The habitat this species is typically associated with (Desert) does not exist within the project site. There is no potential for this species on the project site.

Legend:

SSC=Species of Special Concern

ST=State Threatened

FT=Federal Threatened

WL=Watchlist

Amphibians

One special-status amphibian species has been documented in the vicinity of the project site (Rarefind 5-2020). During the site assessment we found no special-status amphibian species on site and we determined that it has no potential to occur on the project site. In the subsection below, we discuss the amphibian species that have been documented in the vicinity of the site.

TABLE 13
FAWNSKIN QUADRANGLE SENSITIVE STATUS AMPHIBIAN SPECIES

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Ensatina eschscholtzii klauberi</i>	large-blotched salamander	None/None	WL	Inhabits moist shaded evergreen and deciduous forests and oak woodlands. Found under rocks, logs, other debris, especially bark that has peeled off and fallen beside logs and trees. Most common where there is a lot of coarse woody debris on the forest floor. In dry or very cold weather, stays inside moist logs, animal burrows, under roots, woodrat nests, under rocks.	Due to the rocky outcrops and other potential hibernacula, as well as the stockpiling of wooden boards and other objects that could potentially provide temporary cover for this species within the project area, large-blotched salamander are likely to occupy the habitat within the project area. There is some suitable habitat adjacent portions of the project vicinity that could potentially support this species. Occurrence potential is moderate, due to the anthropogenic activities on-site.
<i>Rana muscosa</i>	southern mountain yellow-legged frog	E/None	SSC/WL	Highly aquatic frogs, occupying rocky and shaded streams with cool waters originating from springs and snowmelt. Always encountered within a few feet of water.	There is no appropriate habitat on the project site. There is no potential for this species to occur on the project site.

Legend:
 WL=Watch List
 E=Endangered
 SSC=Species of Special Concern

Avian

No special status avian species have been documented within one mile of the vicinity of the site (Rarefind 3- 2020). In the subsection below, we discuss the special-status avian species that have been documented in the Fawnskin Quadrangle of the site and USFWS list of migratory birds.

TABLE 14
FAWNSKIN QUADRANGLE SENSITIVE STATUS AVIAN SPECIES

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted/E	FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	There is suitable nesting habitat for this species 0.5 mile from the project area and the nearest documented occurrence for this species is on the N side of Big Bear Lake shore, near Grout Bay Campground (approximately 3 miles from the project site). Foraging occurrence potential is low.
<i>Strix occidentalis occidentalis</i>	California Spotted Owl	None/None	SSC/BCC	Mixed conifer forest, often with an understory of black oaks and other deciduous hardwoods. Canopy closure >40%. Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water. Broadleaved upland forest Lower montane coniferous forest Upper montane coniferous forest	There is suitable habitat for this species on the project area however the anthropogenic activities in the area limit the nesting potential. Foraging occurrence potential is low.
<i>Accipiter cooperii</i>	Cooper's hawk	None/None	WL	Woodland areas, especially dense stands of live oak and riparian vegetation. It typically nests in second growth conifers or in deciduous riparian stands.	There is suitable habitat for this species on the project area however the anthropogenic activities in the area limit the nesting potential. Foraging occurrence potential is low.
<i>Aquila chrysaetos</i>	golden eagle	None/None	FP/WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	There is no suitable habitat for this species within the project area. The nearest documented occurrence for this species is approx. 6.5 miles N of the project site, on the desert slopes of the San Bernardino Mountains. There is no potential for this species to occur in the project area.
<i>Lanius ludovicianus</i>	loggerhead shrike	None/None	SSC/BCC	Open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low or sparse herbaceous cover.	There is no suitable habitat for this species within the project area. There is no potential for this species to occur in the project area.
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	E/E		Found in wet meadows and montane riparian habitats from 610-2,500 meters (2,000-8,000 feet.) Willow flycatchers prefer dense willow thickets.	There is no suitable habitat for this species within the project area. There is no potential for this species to occur in the project area.
USFWS T/E and Migratory Birds (Not already listed above)					

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Baeolophus inornatus</i>	Oak Titmouse	None/None	BCC	Warm, open, dry oak or oak-pine woodlands	The nearest documented occurrence for this species is approx. 4 miles from the project site near Baldwin Lake edge. There is no suitable habitat for this species within the project area. There is no potential for this species to occur in the project area.
<i>Calypte costae</i>	Costa's Hummingbird	None/None	BCC	Sonoran and Mojave Desert scrub, coastal California chaparral and sage scrub, and deciduous forest and desert scrub, between 3,000-4,000 feet.	The nearest documented occurrence for this species is approx. 2.2 miles from the project site near lake edge. Occurrence potential is low .
<i>Carduelis lawrencei</i>	Lawrence's Goldfinch	None/None	BCC	Dry and open woods that are near both brushy areas and fields of tall annual weeds, usually within 0.5 mi (0.80 km) of a small body of water.	The nearest documented occurrence for this species is approx. 1.5 mile from the project site. Occurrence potential is high .
<i>Chamaea fasciata</i>	Wrentit	None/None	BCC	Coastal scrub and chaparral	The nearest documented occurrence for this species is approx. 3 miles from the project site near Big Bear Lake edge. There is no potential for this species to occur in the project area
<i>Geothlypis trichas sinuosa</i>	Common Yellowthroat	None/None	BCC	Thick, tangled vegetation in dry upland pine forests, drainage ditches, hedgerows, orchards, fields, burned-over oak forests, shrub-covered hillsides, river edges, and disturbed sites	The nearest documented occurrence for this species is approx. 3 miles from the project site near Big Bear Lake edge. Occurrence potential is low .
<i>Gymnogyps californicus</i>	California Condor	E/E	BCC	Nesting habitats range from scrubby chaparral to forested mountain regions up to about 6,000 feet elevation. Foraging areas are in open grasslands and can be far from primary nesting sites, requiring substantial daily commutes. Condors glide and soar when foraging, so they depend on reliable air movements and terrain that enables extended soaring flight.	There is no suitable habitat for this species within the project area. There is no potential for this species to occur in the project area.
<i>Limnodromus griseus</i>	Short-billed Dowitcher	None/None	BCC	Freshwater mud flats and flooded agricultural fields; Breeds in muskegs of taiga to timberline, and barely onto subarctic tundra; Winters on coastal mud flats and brackish lagoons; In migration prefers saltwater tidal flats,	The nearest documented occurrence for this species is approx. 1 miles from the project site near Big Bear City airport in mud flats near the water. There is no suitable habitat for this species within the project area. There is no potential for this species to occur in the project area.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
				beaches, and salt marshes	
<i>Limosa fedoa</i>	Marbled Godwit	None/None	BCC	Breed in shortgrass prairies near wetlands. They avoid areas with taller vegetation and occur more often in native grass prairies with green needle grass, western wheatgrass, blue grama, needle-and-thread, and little blue stem. On the wintering grounds, Marbled Godwits forage and rest along coastal mudflats, estuaries, and sandy beaches.	The nearest documented occurrence for this species is approx. 1 mile from the project site near edge of Big Bear Lake in mud flats near the water. There is no potential for this species on the project site.
<i>Melospiza melodia</i>	Song Sparrow	None/None	BCC	Open habitats, including tidal marshes, arctic grasslands, desert scrub, pinyon pine forests, aspen parklands, prairie shelterbelts, Pacific rain forest, chaparral, agricultural fields, overgrown pastures, freshwater marsh and lake edges, forest edges, and suburbs. Deciduous or mixed woodlands.	The nearest documented occurrence for this species is approx. 11 miles from the project site near edge of Big Bear Lake in vegetation near the water. Occurrence potential is low.
<i>Numenius americanus</i>	Long-billed Curlew	None/None	BCC	Sparse, short grasses, including shortgrass and mixed-grass prairies as well as agricultural fields. After their young leave the nest they may move to areas with taller, denser grasses. En route to their wintering grounds along the coast and interior Mexico, they use shortgrass prairies, alkali lakes, wet pastures, tidal mudflats, and agricultural fields. In winter you can find them in wetlands, tidal estuaries, mudflats, flooded fields less than 6 inches deep, and beaches.	The nearest documented occurrence for this species is approx. 6 miles from the project site near Von's marsh on Big Bear Lake edge. There is no potential for this species on the project site.
<i>Picoides albolarvatus</i>	White Headed Woodpecker	None/None	BCC	Montane coniferous forests dominated by pines.	White-headed woodpecker is expected on the project site. Potential is high.
<i>Picoides nuttallii</i>	Nuttall's Woodpecker	None/None	BCC	Oak woodlands from around 900–5,500 feet elevation	Nuttall's woodpecker is present on the project site.
<i>Pipilo maculatus clementae</i>	Spotted Towhee	None/None	BCC	Dry thickets, brushy tangles, forest edges, old fields, shrubby backyards, chaparral, coulees, and canyon bottoms, places with dense shrub cover	The nearest documented occurrence for this species is approx. 3 miles from the project site. There is no potential for this species to be present on the project site as there is no suitable habitat.
<i>Selasphorus rufus</i>	Rufous Hummingbird	None/None	BCC	Breed in open or shrubby areas, forest	The nearest documented occurrence for this

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
				openings, yards, and parks, and sometimes in forests, thickets, swamps, and meadows from sea level - 6,000 feet. During migration, found in mountain meadows up to 12,600 feet elevation	species is approx. 3 miles from the project site. Occurrence potential is low, except during migration.
<i>Spizella atrogularis</i>	Black-chinned Sparrow	None/None	BCC	Dry brushlands and chaparral from near sea level to 8,000 feet. Sagebrush, rabbitbrush, ceanothus, and other chaparral species. Breed on rocky hillsides and winter downslope in desert scrub.	The nearest documented occurrence for this species is approx. 1.5 miles north of the project site. There is no potential for this species on the project site as there is no suitable habitat.
<i>Tringa semipalmata</i>	Willet	None/None	BCC	Open beaches, bayshores, marshes, mudflats, and rocky coastal zones. During breeding nest near marshes and other wetlands, vernal pools/ponds, and wet fields.	The nearest documented occurrence for this species is approx. 1 miles from the project site near edge of Big Bear Lake in mudflats near the water. There is no potential for this species to be present on the project site as there is no suitable habitat.

Legend:

Delisted=No longer listed as endangered or threatened species by federal agency

E=Endangered

SSC=Species of Special Concern

WL=Watch List

FP=Fully Protected

BCC=Bird of Conservation Concern

Mammals

Ten special-status mammal species have been documented in the vicinity of the project site (Rarefind 5 2020). Two of these species have moderate potential to occur on the site San Bernardino flying squirrel (*Glaucomys oregonensis californicus*), and lodgepole chipmunk (*Neotamias speciosus speciosus*). In the subsection below, we discuss the mammal species that have been documented in the vicinity of the site.

TABLE 15
FAWNSKIN QUADRANGLE SENSITIVE STATUS MAMMAL SPECIES

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Ovis canadensis nelsoni</i>	desert bighorn sheep	None/None	FP	Mountainous terrain above the desert floor. Preferred habitat of bighorn sheep is visually open, as well as steep and rocky.	There is no potential for desert bighorn sheep on the project site as there is no appropriate habitat.
<i>Myotis thysanodes</i>	fringed myotis	None/None		Desert-scrub to fir-pine associations. Oak and pinyon woodlands appear to be the most commonly used vegetative associations	There is no potential for this species on the project site as there is no appropriate habitat.
<i>Neotamias speciosus speciosus</i>	lodgepole chipmunk	None/None	-	Coniferous forest from 6,000 to 11,000 feet above sea level	There is documented occurrence for this species within one mile of the project site. It is unspecific Big Bear Valley and is from 1990. Occurrence potential is moderate , however the proximity to housing and Big Bear Boulevard.
<i>Myotis evotis</i>	long-eared myotis	None/None	-	Thinly forested areas, around buildings or trees; occasionally caves.	There is no potential for this species on the project site as there is no appropriate habitat.
<i>Myotis volans</i>	long-legged myotis	None/None	-	Coniferous forest, although they are sometimes found in oak or streamside woodlands, and even deserts.	There is suitable habitat for this species within the project area. Potential for this species to occur in the project area is moderate.
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	None/None	SSC	Shrublands that vary from sparse desert shrublands to dense coastal scrub. It tends to be more abundant where rocks or shrubs provide cover. The species lives in a variety of habitats: desert slopes, agave, rocky areas, coastal sage scrub, etc.	The nearest documented occurrence for this species is approx. 16 miles from the project site. There is no potential for this species to be on the project site.
<i>Glaucomys oregonensis californicus</i>	San Bernardino flying squirrel	None/None	SSC	High-elevation, mixed-conifer forests dominated by Jeffrey pine, white fir and black oak between 4,600 and 7,550 feet. Flying squirrels thrive in forests with big trees and closed-canopy cover, large snags that provide nesting cavities, downed logs that foster the growth of the truffles they eat and understory cover that provides protection from predators.	There is suitable habitat for this species within the project area. However, there is very little information about this species location(s) in and around Big Bear Lake. Potential for this species to occur in the project area is moderate.

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Callospermophilus lateralis bernardinus</i>	San Bernardino golden-mantled ground squirrel	None/None	G5T1	Forest-edged meadows and rocky slopes can be occupied, as well as chaparral habitat. Golden-mantled ground squirrels are found up to and above the timberline, provided that there is enough cover for them. Forest-edged meadows and rocky slopes can be occupied, as well as chaparral habitat in southern California.	There is no potential for this species on the project site as there is no appropriate habitat.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/None	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	The nearest documented occurrence for this species is approx. 5.5 miles NE of the project site, on the desert slopes of the San Bernardino mountains. The project area is subject to a high-level of human disturbance. Potential for this species to occur in the project area is low .
<i>Myotis yumanensis</i>	Yuma myotis	None/None	-	Caves, tunnels, and buildings, in arid areas.	There is no potential for this species on the project site as there is no appropriate habitat.

Legend:

SSC=Species of Special Concern

FP=Fully Protected

Insects

Four special-status insect species has been documented in the vicinity of the project site (Rarefind 5 2020). One, Crotch bumble bee, has low potential to occur on the site. In the subsection below, we discuss the insect species that has been documented in the vicinity of the site.

TABLE 16
FAWNSKIN QUADRANGLE SENSITIVE STATUS INVERTEBRATE SPECIES

SCIENTIFIC NAME	COMMON NAME	Listing Status	Other STATUS	Habitat	Potential Occurrence
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	None/None	G4G5T1	Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mountains, San Bernardino County, 5000- 6000 ft. Host plants are <i>Streptanthus bernardinus</i> and <i>Arabis holboellii</i> var <i>pinetorum</i> ; larval foodplant is <i>Descurainia richardsonii</i> .	The nearest documented occurrence for this species is a historical collection (1935) near the W end of Big Bear Lake, approx. 10 mile W of the project area. There is no potential for this species to be on the project site.
<i>Bombus crotchii</i>	Crotch bumble bee	None/Candidate Endangered	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	The nearest documented occurrence for this species is approx. 5.5 miles from the project site. There is low potential for this species to be on the project site.
<i>Bombus morrisoni</i>	Morrison bumble bee	<i>Bombus morrisoni</i>	G3	Open scrub habitat. It nests underground and aboveground in structures and grass hummocks	The nearest documented occurrence for this species is approx. 5 miles from the project site. There is no potential for this species to be on the project site.
<i>Hydroporus simplex</i>	simple hydroporus diving beetle	None/None	G1	Known from aquatic habitats in Tuolumne and San Bernardino counties.	There is only one documented occurrence for this species within the project vicinity (1983), from approx. 3.5 miles N of the project area, in the vicinity of Holcomb Valley. There is no potential for this species to be on the project site.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

Other Sensitive Biological Resources

City of Big Bear Lake has ordinances regarding plant protection and management (Chapter 17.10: Tree Conservation and Defensible Space) that apply to this project and project area.

17.10.045 Tree conservation requirement during construction

17.10.075 Native brush and shrub.

San Bernardino County has several ordinances regarding plant protection and management (Chapter 88.01: Plant Protection and Management). Those that apply to this project and project area are briefly discussed below.

Mountain Forest and Valley Trees

This ordinance (§ 88.01.070 Mountain Forest and Valley Tree Conservation) provides regulations regarding mountain forests and valley tree conservation. Several species of trees, including junipers and pine trees are known to occur on the project site. Other Valley trees including California sycamore, southern coast live oak, scrub oak, California black oak and chaparral oak are covered. Because mountain forest and valley trees are protected under the County's Ordinance, any impacts to these species or their habitat must be carefully evaluated in accordance with the ordinance.

Wildlife Corridor Analysis

San Bernardino County has designated the area as a wildlife dispersion corridor (#42 Big Bear Lake Watershed). Small tracts of land or larger relatively undisturbed land masses play an increasingly critical roll in connecting fragmented populations of plant and animal species. The basic framework of corridor analysis consists of identifying areas of habitat which are suitable for the wildlife species in question. Habitat suitability depends upon the needs of a given species. It can be approximated by overlaying layers such as current vegetation, topography (aspect, slope, elevation), distance to water, and perhaps climatic variables such as average temperature and precipitation. Because different wildlife species vary in their sensitivity to human disturbance, habitat suitability is constrained by disturbance variables such as distance to roads, distance to towns, traffic volumes, hunting status, etc. Generally, coverage of known distribution of a species (sightings, radio-telemetry locations, hunter-kill and road-kill sites) is also developed. A probability contour is finally developed from the convergence of these coverage's to indicate the likelihood of a given area being suitable for a given species. Where this probable habitat connects areas of known population centers, it is often termed a corridor. The project site is bordered by Big Bear Boulevard to the west, commercial development to the northeast and south and partial open space to the southeast.

We evaluated the project in relationship to the facilitation of wildlife movement and whether it provides links to seasonal foraging grounds or affects the exchange of genetic information between disjunct subpopulations. Portions of the project site are utilized for local movement by resident wildlife, primarily

birds. Biological surveys of the study area did not detect wildlife trails, bedding areas, or caves which could be used as dens for smaller and larger mammals.

Currently the project site provides marginal connectivity on the majority of the site. Land usage (dirt roads, parking areas, debris piles, etc) and altering of native vegetation have compromised the integrity of the wildlife dispersion corridor on the project site. Birds, due to their movement capabilities, are able to disperse via the existing trees on the project site. The site provides seasonal foraging and nesting areas for them. Plant dispersion is also provided, as long as land utilization is minimized. Amphibian, reptile and meso-predator dispersion is limited by lack of cover and are not likely to use the majority of the project site as a dispersion corridor. Big Bear Boulevard and single-family development serve as barriers between the project site and Big Bear Lake. Dispersion from the project site to the east is partially compromised by a single house before additional open space is available to the east.

VIII. IMPACTS AND RECOMMENDATIONS

A. Probable impacts

The number of individuals of each sensitive species inhabiting the habitat areas was not determined, for the following reasons: (a) many species are amphibians or reptiles, which are difficult to detect during routine field surveys, (b) intensive population studies of small mammals inhabiting the various habitats were not conducted due to the excessive time required to complete such investigations, and (c) some of the bird species known from habitats immediately adjacent to the project area were not observed during field surveys but, due to their capacity of flight, could inhabit the area any time in the future.

DIRECT AND INDIRECT IMPACTS TO VEGETATION

Direct impacts consist of any ground-disturbing activities (i.e., vegetation removal, grading, paving, building of structures, etc.). Impacts will occur to disturbed habitat. Most of these impacts will occur in the grading by removal of habitat. Direct and indirect disturbance from construction activities could result in the loss or degradation of biological resources from installation of new buildings and construction of parking areas through the following ground-disturbing activities:

- Plowing or trenching during construction;
- Temporary stockpiling of soil or construction materials and sidecasting of soil and other construction wastes;
- Excavation for foundations;
- Use of designated equipment staging areas (impacts on biological resources are unlikely because locations that are already heavily disturbed, including those that have compacted dirt and gravel, will be used as staging areas);
- Soil compaction, dust, and water runoff;
- Noise disturbance to wildlife species from construction activities; and
- Temporary parking of vehicles outside the construction zone on sites that support sensitive resources (sites not designated as equipment staging areas).

DIRECT AND INDIRECT IMPACTS TO WILDLIFE

The habitat supports common native wildlife species that would be indirectly affected by the construction of the project. This would include common species of reptiles, birds, and small mammals. The more mobile wildlife species, such as birds and larger mammals that utilize the affected area will be displaced during clearing activities to adjacent areas. These animals may move to open adjacent properties. The less mobile species will probably be lost during the clearing and grading. Construction of the project is taking place in previously disturbed areas on the site. Under current field conditions, no endangered or threatened

species would be lost from implementation of this project. Anticipated impacts to most wildlife species would be relatively minor, for the following reason: (a) the majority of the project area is previously disturbed by anthropogenic activities.

Based on our surveys we found the following sensitive species or the potential for the species to be present on the project site:

TABLE 17

SCIENTIFIC NAME	PRESENT SPECIES ON THE PROJECT SITE	
	COMMON NAME	PRESENCE
AVIAN		
<i>Picoides nuttallii</i>	Nuttall's Woodpecker	Nuttall's woodpecker is present on the project site.
<i>Piranga flava</i>	Hepatic tanager	Hepatic tanager is present on the project site.

TABLE 18

SCIENTIFIC NAME	ABSENT SPECIES ON THE PROJECT SITE	
	COMMON NAME	POTENTIAL OCCURRENCE
PLANTS		
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	There are five documented occurrences for this species within one mile of the project site. Locations include: east of Eagle Point, South side of Big Bear Lake, San Bernardino Mountains; Rebel Ridge, Castle Gen Preserve, Big Bear Lake; North of Highway 38, 0.3 to 1.1 miles east of Stanfield cutoff, north of Big Bear Lake, San Bernardino Mountains; Both sides of Highway 38 north of Big Bear Lake, from Big Bear Ranger Station to Stanfield Cutoff; and just southwest of Peak 7105, west end of Rebel Ridge, Castle Glen Preserve, Big Bear Lake. However, focused surveys conducted within the project area in spring of 2020 were negative for this species. Therefore, this species is considered absent from the project area at the time of survey.
<i>Boechera parishii</i>	Parish's rockcress	Three documented occurrences (unknown dates) for this species occurred within one mile of the project site. The location was Bear Valley, San Bernardino Mountains for all three locations. However, focused surveys conducted within the project area in spring of 2020 were negative for this species. Therefore, this species is considered absent from the project area at the time of survey.
<i>Fritillaria pinetorum</i>	pine fritillary	Three documented occurrences (unknown dates) for this species occurred within one mile of the project site. The location was Bear Valley, San Bernardino Mountains for all three locations.

However, focused surveys conducted within the project area in spring of 2020 were negative for this species. **Therefore, this species is considered absent from the project area at the time of survey.**

A circumstance of a negative result is not necessarily evidence that the species does not exist on the site or that the site is not actual or potential habitat of the species. The survey results for the species above are only good for one year. Regardless of the survey results, plants species above cannot be taken under State and Federal law. The survey report and any mitigation measures included do not constitute authorization for incidental take of the plants listed above.

TABLE 19

HIGH POTENTIAL SPECIES ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	POTENTIAL OCCURRENCE
<i>Carduelis lawrencei</i>	Lawrence's Goldfinch	The nearest documented occurrence for this species is approx. 1.5 mile from the project site. Occurrence potential is high.
<i>Picoides albolarvatus</i>	White Headed Woodpecker	White-headed woodpecker is expected on the project site. Potential is high.

TABLE 20

MODERATE POTENTIAL SPECIES ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	POTENTIAL OCCURRENCE
<i>Charina umbratica</i>	southern rubber boa	Due to the rocky outcrops and other potential rubber boa hibernacula, as well as the stockpiling of wooden boards and other objects that could potentially provide temporary cover for this species within the project area, rubber boa are likely to occupy the habitat within the project area. There is some suitable habitat adjacent portions of the project vicinity that could potentially support rubber boa and this species has been documented several times (1961-2017) within 1 mile of the project. Occurrence potential is moderate, due to the anthropogenic activities on-site.
<i>Ensatina eschscholtzii klauberi</i>	large-blotched salamander	Due to the rocky outcrops and other potential hibernacula, as well as the stockpiling of wooden boards and other objects that could potentially provide temporary cover for this species within the project area, large-blotched salamander are likely to

<i>Neotamias speciosus speciosus</i>	lodgepole chipmunk	occupy the habitat within the project area. There is some suitable habitat adjacent portions of the project vicinity that could potentially support this species. Occurrence potential is moderate, due to the anthropogenic activities on-site.
<i>Myotis volans</i>	long-legged myotis	There is documented occurrence for this species within one mile of the project site. It is unspecific Big Bear Valley and is from 1990. Occurrence potential is moderate, however the proximity to housing and Big Bear Boulevard.
<i>Glaucomys oregonensis californicus</i>	San Bernardino flying squirrel	There is suitable habitat for this species within the project area. Potential for this species to occur in the project area is moderate.
		There is suitable habitat for this species within the project area. However, there is very little information about this species location(s) in and around Big Bear Lake. Potential for this species to occur in the project area is moderate.

A circumstance of a negative result is not necessarily evidence that the species does not exist on the site or that the site is not actual or potential habitat of the species. The survey results for the species above are only good for one year. Regardless of the survey results, plants species above cannot be taken under State and Federal law. The survey report and any mitigation measures included do not constitute authorization for incidental take of the species listed above.

TABLE 21
LOW POTENTIAL SPECIES ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	POTENTIAL OCCURRENCE
PLANTS		
<i>Castilleja cinerea</i>	ash-gray paintbrush	The nearest documented occurrences for this species is a historical collection (1979 and 1980) from Castle Glen area. There is low potential for this species to occur on the project site.
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	The nearest documented occurrence for this species is in 1938 from ½ mile E of the project site. There is low potential for this species to occur on the project site, we found Woollypod milkvetch on site, no Big Bear Valley milk-vetch.
<i>Erigeron breweri</i> var. <i>jacinteus</i>	San Jacinto Mountains daisy	This species has been documented within one mile of the project site. Documented in 2013 it occurred San Bernardino National Forest; southwest side of Big Bear Lake, about 0.25 air mile southwest of Castle Rock. There is low potential for this species to

		occur on the project site.
AVIAN		
<i>Aquila chrysaetos</i>	golden eagle	There is some marginally-suitable habitat for this species within the project area. However, the nearest documented occurrence for this species is approx. 5.5 miles N of the project site, on the desert slopes of the San Bernardino Mountains. Potential for this species to occur in the project area is low .
<i>Haliaeetus leucocephalus</i>	bald eagle	There is suitable nesting habitat for this species 0.5 mile from the project area and the nearest documented occurrence for this species is on the N side of Big Bear Lake shore, near Grout Bay Campground (approximately 3 miles from the project site). Foraging occurrence potential is low.
<i>Strix occidentalis occidentalis</i>	California Spotted Owl	There is suitable habitat for this species on the project area however the anthropogenic activities in the area limit the nesting potential. Foraging occurrence potential is low.
<i>Accipiter cooperii</i>	Cooper's hawk	There is suitable habitat for this species on the project area however the anthropogenic activities in the area limit the nesting potential. Foraging occurrence potential is low.
<i>Calypte costae</i>	Costa's Hummingbird	The nearest documented occurrence for this species is approx. 2.2 miles from the project site near lake edge. Occurrence potential is low.
<i>Geothlypis trichas sinuosa</i>	Common Yellowthroat	The nearest documented occurrence for this species is approx. 3 miles from the project site near Big Bear Lake edge. Occurrence potential is low.
<i>Melospiza melodia</i>	Song Sparrow	The nearest documented occurrence for this species is approx. 11 miles from the project site near edge of Big Bear Lake in vegetation near the water. Occurrence potential is low.
<i>Selasphorus rufus</i>	Rufous Hummingbird	The nearest documented occurrence for this species is approx. 3 miles from the project site. Occurrence potential is low , except during migration.
MAMMALS		
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	The nearest documented occurrence for this species is approx. 5.5 miles NE of the project site, on the desert slopes of the San Bernardino mountains. The project area is subject to a high-level of human disturbance. Potential for this species to occur

INSECTS		in the project area is low .
<i>Bombus crotchii</i>	Crotch bumble bee	The nearest documented occurrence for this species is approx. 5.5 miles from the project site. There is low potential for this species to be on the project site.

A circumstance of a negative result is not necessarily evidence that the species does not exist on the site or that the site is not actual or potential habitat of the species. The survey results for the species above are only good for one year. Regardless of the survey results, plants species above cannot be taken under State and Federal law. The survey report and any mitigation measures included do not constitute authorization for incidental take of the species listed above.

B. Cumulative Impacts

The project may affect sensitive biological resources. Some species may utilize several habitat types, or similar microhabitat features contained within different habitat types, during their typical life cycle. Therefore, any habitat-specific impacts discussed below should be considered an approximate description of expected impacts to particular species. Some habitats would only be temporarily disturbed, such as at construction staging sites that are active only during the construction phase of the project. Such temporary disturbance would either kill resident wildlife or displace them into adjacent or more distant habitats, depending on the species. Some of the surviving species would return to the disturbed site following completion of the construction activity.

Temporary indirect impacts would occur to most wildlife species residing in, or using, habitats immediately adjacent to project construction areas, due to increased noise, lighting, dust, human presence or ground vibrations. Depending on the species and the type/intensity of disturbance, diurnal species would be reduced in number or completely displaced. Nocturnal species would be less affected since construction would presumably occur primarily or entirely during the daytime.

The site features disturbed, *Ericameria nauseosa* (Rubber rabbitbrush scrub) Alliance, landscape, and *Pinus ponderosa* (*Ponderosa pine forest*) Alliance. The disturbed vegetation on the project site (site) and its history of anthropogenic disturbances likely limit its value to native plant and animal species.

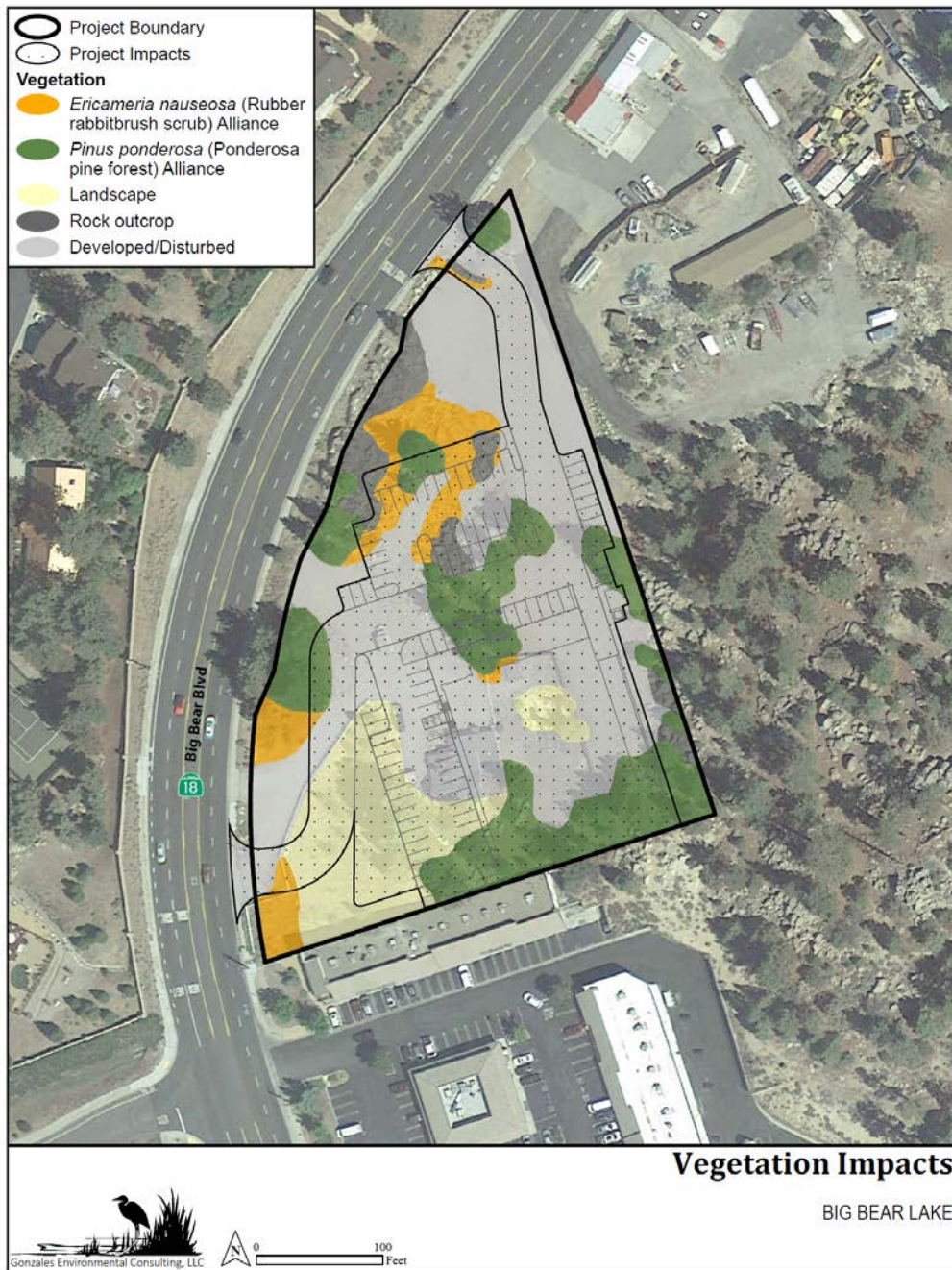


FIGURE 9

C. RECOMMENDATIONS

Based on the identified impacts, the following measures are recommended. Recommendations regarding the time period that implementation of the recommended measures should be completed vary. Therefore, the recommended measures are organized around that timeline. The following recommendations shall be implemented prior to or during site clearing and grading:

Migratory Birds

If construction is to occur during the MBTA nesting cycle (February 1-September 30) than a nesting bird survey should be conducted by a qualified biologist. Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered take and is potentially punishable by fines or imprisonment. Active bird nests should be mapped utilizing a hand-held global positioning system (GPS) and a 300' buffer will be flagged around the nest (500' buffer for raptor nests). Construction should not be permitted within the buffer areas while the nest continues to be active (eggs, chicks, etc.).

Sensitive Plants

Prior to construction activities, a qualified biologist would be required to determine the presence/absence of these species. Rare plant surveys are generally performed between April and August in the Big Bear area. In the event construction begins prior to April, it is recommended that a preconstruction survey be performed. While on-site, if biologists identify the plants, the following steps should be taken: 1) identification of an existing mitigation site within the County of San Bernardino where these species are known to exist or identification of a mitigation site within the County that exhibits suitable habitat for the plant species; 2) removal of all sensitive plants in the construction area; and 3) transplantation of the plants, if appropriate, to a designated mitigation site.

Native Trees and Riparian Vegetation

All native trees (junipers, pines, etc.) on the project site shall be preserved in accordance with City of Big Bear Lake ordinances.

Amphibians, Reptiles, Insects and Fossorial Mammals

Preconstruction surveys would be conducted prior to ground-disturbing activities to ensure clearance of any sensitive wildlife species, including southern rubber boa, San Bernardino flying squirrel, lodgepole chipmunk and Crotch bumble bee. If any wildlife is found within the project disturbance areas, individuals would be salvaged and allowed to relocate on their own, or would be actively relocated by approved biologists as directed by the CDFW. Conducting continuing preconstruction surveys would reduce the intensity of the identified impacts to sensitive fossorial mammal species to less than significant.

Exotics

The project landscaping design should limit plantings to non-invasives, avoiding those species listed by the California Exotic Plant Pest Council (CalEPPC) as the "exotic pest plants of greatest concern" (CalEPPC).

Maintenance and Refueling

Maintenance and refueling of construction equipment shall be limited to areas specified as appropriate by the project biologist. Storage of potentially hazardous materials, including but not limited to fuel, paint, stains, pesticides, herbicides, solvents, and oils will not be permitted within 50 feet of any habitat area to be retained by the project. During construction, disposal of such material will occur in a controlled area that is physically separated from potential storm water runoff.

Runoff

Silt fencing or other sediment trapping devices should be installed and maintained in order to prevent run-off from entering the water systems during construction activities.

IX. PROPOSED MITIGATION MEASURES

MITIGATION RECOMMENDATIONS

1. To mitigate for potential increase of toxics, Project Applicant will complete a Storm Water Pollution Prevention Plan (SWPPP), in accordance with all appropriate NPDES requirements, via issuance and implementation of a Clean Water Act 402 NPDES Storm Water Pollution Prevention Plan, to reduce the potential risk of hazardous materials associated with normal residential use such as cleaning products, solvents, herbicides, and insecticides.
2. To mitigate for potential increase of night lighting, Project Applicant will complete a Night lighting Plan, in accordance with all appropriate requirements and policies of San Bernardino County, to protect species within the area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting is not increased.
3. To mitigate for exposure of native areas to additional human presence, pets, and exotic vegetation City of Big Bear Lake approved barriers should be placed around structures.
4. To mitigate for exposure of native areas to exotic vegetation an exotic vegetation removal program will be implemented.

TABLE 22
REQUIRED MITIGATION MONITORING

Mitigation Measure	Monitoring Required	Entity to Perform and/or Report on the Measure
SWPPP	Construction and post-construction compliance	SB County Flood Control District/RWQCB
Lighting	Construction and post-construction compliance	City
Barriers	Construction and post-construction compliance	Applicant
Exotic vegetation	Construction and post-construction compliance	Applicant
Pet Restriction	Construction and post-construction compliance	Applicant
Sensitive Plants	Construction and post-construction compliance	Applicant

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B. Persons contacted

- May 15, 2020 California Department of Fish and Wildlife, Region 6 Bishop office was contacted regarding potential sensitive species in the area. We were directed to use the CNDDB species list. The species list is Table 2 on page 21.
- May 30, 2020 U.S. Fish and Wildlife Service, Carlsbad Field Office was contacted regarding potential sensitive species in the area. The species list is on page 17.

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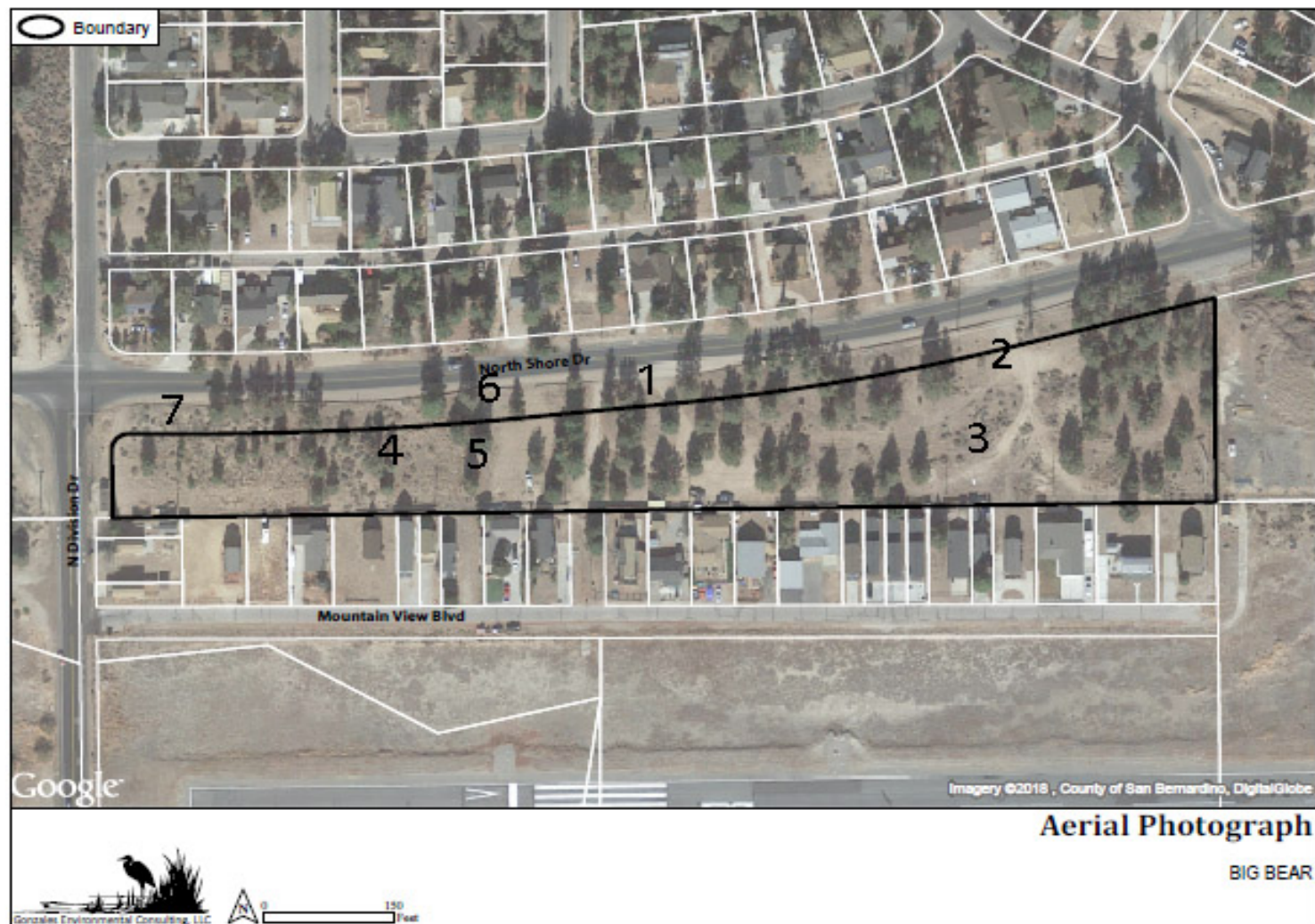




PHOTO 1
VIEW NORTH



PHOTO 2
VIEW SOUTH



PHOTO 3
VIEW EAST





PHOTO 5
VIEW
NORTH





PHOTO 7
VIEW WEST









PHOTO 11
VIEW
NORTHEAST



PHOTO 12
VIEW SOUTH



PHOTO 13
VIEW SOUTH



PHOTO 14
VIEW SOUTH





PHOTO 16
VIEW SOUTH



XIV. CERTIFICATION

CERTIFICATION: "I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project."

DATE: JUNE 6, 2020 SIGNED:



1) Teresa Gonzales

1) Fieldwork Performed By:



Teresa Gonzales

Performed By:



Paul Gonzales

Check here _____ If Adding any additional Names/Signatures, below or on other side of page.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
<http://www.fws.gov/carlsbad/>



In Reply Refer To:

May 30, 2020

Consultation Code: 08ECAR00-2020-SLI-1153

Event Code: 08ECAR00-2020-E-02667

Project Name: Big Bear Blvd

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2020-SLI-1153

Event Code: 08ECAR00-2020-E-02667

Project Name: Big Bear Blvd

Project Type: DEVELOPMENT

Project Description: Grocery outlet, internal street and parking

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/34.25486648899284N116.8845174599567W>

Counties: San Bernardino, CA

Endangered Species Act Species

There is a total of 15 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Flowering Plants

NAME	STATUS
Ash-grey Paintbrush <i>Castilleja cinerea</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3702	Threatened
Bear Valley Sandwort <i>Arenaria ursina</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7317	Threatened
California Taraxacum <i>Taraxacum californicum</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7421	Endangered
Cushenbury Buckwheat <i>Eriogonum ovalifolium</i> var. <i>vineum</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6852	Endangered
Cushenbury Milk-vetch <i>Astragalus albens</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8232	Endangered
Cushenbury Oxytheca <i>Oxytheca parishii</i> var. <i>goodmaniana</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5225	Endangered
Parish's Daisy <i>Erigeron parishii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8446	Threatened
Pedate Checker-mallow <i>Sidalcea pedata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1340	Endangered
San Bernardino Bluegrass <i>Poa atropurpurea</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4641	Endangered
San Bernardino Mountains Bladderpod <i>Lesquerella kingii</i> ssp. <i>bernardina</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/809	Endangered
Slender-petaled Mustard <i>Thelypodium stenopetalum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1658	Endangered
Southern Mountain Wild-buckwheat <i>Eriogonum kennedyi</i> var. <i>austromontanum</i> There is final critical habitat for this species. Your location is outside the critical habitat.	Threatened

NAME

STATUS

Species profile: <https://ecos.fws.gov/ecp/species/7201>

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX C

**HISTORICAL/ARCHAEOLOGICAL RESOURCES
SURVEY REPORT**

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

GROCERY OUTLET PROJECT

**42175 Big Bear Boulevard
Assessor's Parcel Nos. 0311-395-01, 0311-395-02, and 0311-405-01
City of Big Bear Lake, San Bernardino County, California**

For Submittal to:

Planning Department
City of Big Bear Lake
39707 Big Bear Boulevard
Big Bear Lake, CA 92315

Prepared for:

Main and Main Capitol Group, LLC
5750 Genesis Court, Suite 103
Frisco, TX 75034

Prepared by:

CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

May 29, 2020
CRM TECH Contract No. 3614

Title: Historical/Archaeological Resources Survey Report: Grocery Outlet Project, 42175 Big Bear Boulevard, Assessor's Parcel Nos. 0311-395-01, 0311-395-02, and 0311-405-01, City of Big Bear Lake, San Bernardino County, California

Author(s): Bai "Tom" Tang, Principal Investigator
Terri Jacquemain, Historian/Architectural Historian
Daniel Ballester, Archaeologist

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: May 29, 2020

For Submittal to: Planning Department
City of Big Bear Lake
39707 Big Bear Boulevard
Big Bear Lake, CA 92315
(909) 866-5831

Prepared for: Dan Dover
Main and Main Capitol Group, LLC
5750 Genesis Court, Suite 103
Frisco, TX 75034
(214) 308-0008

Project Size: Approximately 2.9 acres

USGS Quadrangle: Fawnskin, Calif., 7.5' quadrangle (Section 16, T2N R1E, San Bernardino Baseline and Meridian)

Keywords: Big Bear Valley, San Bernardino Mountains; Phase I cultural resources survey; Site 36-001650 (CA-SBR-1650/H): prehistoric campsite; Site CRM TECH 3614-1H (temporary designation): circa 1932 single-family residence (altered); Site CRM TECH 3614-2 (temporary designation): bedrock milling features; Phase II archaeological testing recommended on CRM TECH-2

MANAGEMENT SUMMARY

In April and May 2020, at the request of Main and Main Capitol Group, LLC, CRM TECH performed a cultural resources survey on approximately 2.9 acres of partially developed land in the eastern portion of the City of Big Bear Lake, San Bernardino County, California. The subject property of the study consists of a total of three parcels, Assessor's Parcel Nos. 0311-395-01, 0311-395-02, and 0311-405-01, and is located on the east side of Big Bear Boulevard between its intersections with Stanfield Cutoff and Sandalwood Drive, in the south half of Section 16, T2N R1E, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed construction of a 6,784-square-foot Grocery Outlet store on the property, along with 73 paved parking spaces, driveways, and landscaping. The project requires demolition of all existing buildings and structures on the property, including a single-family residence at 42175 Big Bear Boulevard (State Route 18). The City of Big Bear Lake, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA).

The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH reviewed the results of a recently completed historical/archaeological resources records search, initiated a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey.

The results of the records search indicate that Site 36-001650 (CA-SBR-1650/H), primarily a prehistoric (i.e., Native American) campsite, was previously recorded as lying partially within the project area. The site was excavated and determined not to be significant in the 1970s, and no archaeological remains were found at that location during the current study. The existing residence, originally constructed around 1932, and a previously unknown prehistoric archaeological site in the project area, consisting of two bedrock milling features and a metate, were recorded during this study and designated temporarily as Sites CRM TECH 3614-1H and CRM TECH 3614-2, respectively, pending the assignment of official site numbers in the California Historical Resources Inventory. The residence was determined not to meet the definition of a "historical resource," but the significance of the prehistoric site cannot be ascertained without further archaeological investigations due to the possibility of subsurface cultural deposits.

Based on the research results summarized above, CRM TECH recommends that an archaeological testing and evaluation program be implemented to determine whether CRM TECH 3614-2 qualifies as a "historical resource" prior to the commencement of any ground-disturbing activities associated with the project. The scope of the testing program should include surface collection, subsurface excavations, artifact analysis, and permanent curation of recovered artifacts at an appropriate facility. Further recommendations regarding the final treatment of the site will be formulated and presented on the basis of the results of the testing program.

No further cultural resources investigations will be necessary at 36-001650 and CRM TECH 3614-1H or elsewhere in the project area unless development plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are discovered during earth-moving operations anywhere within the project area, all work at that location should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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Figure 9. Bedrock milling feature at CRM TECH 3614-2	16

INTRODUCTION

In April and May 2020, at the request of Main and Main Capitol Group, LLC, CRM TECH performed a cultural resources survey on approximately 2.9 acres of partially developed land in the City of Big Bear Lake, San Bernardino County, California (Fig. 1). The subject property of the study consists of a total of three parcels, Assessor's Parcel Nos. 0311-395-01, 0311-395-02, and 0311-405-01, and is located on the east side of Big Bear Boulevard between its intersections with Stanfield Cutoff and Sandalwood Drive, in the south half of Section 16, T2N R1E, San Bernardino Baseline and Meridian (Figs. 2, 3).

The study is part of the environmental review process for the proposed construction of a 6,784-square-foot Grocery Outlet store on the property, along with 73 paved parking spaces, driveways, and landscaping. The project requires demolition of all existing buildings and structures on the property, including a single-family residence at 42175 Big Bear Boulevard (State Route 18). The City of Big Bear Lake, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.).

The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any “historical resources,” as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH reviewed the results of a recently completed historical/archaeological resources records search, initiated a Native American Sacred Lands File search, pursued historical background research, and carried out an intensive-level field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

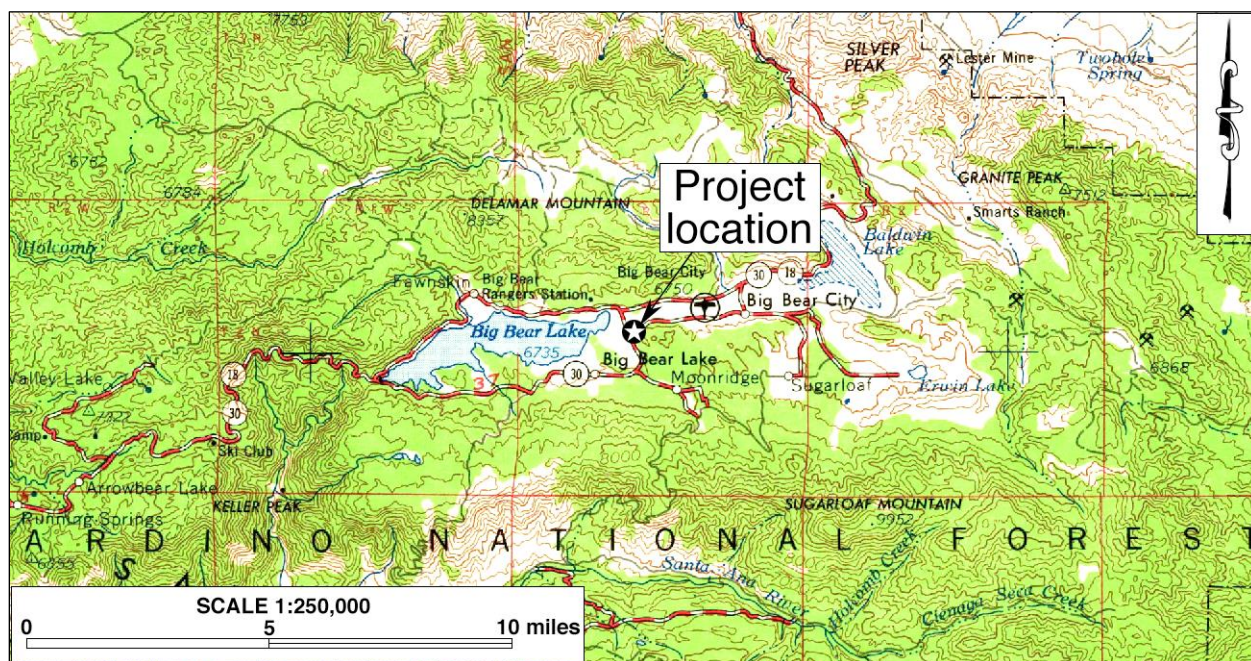
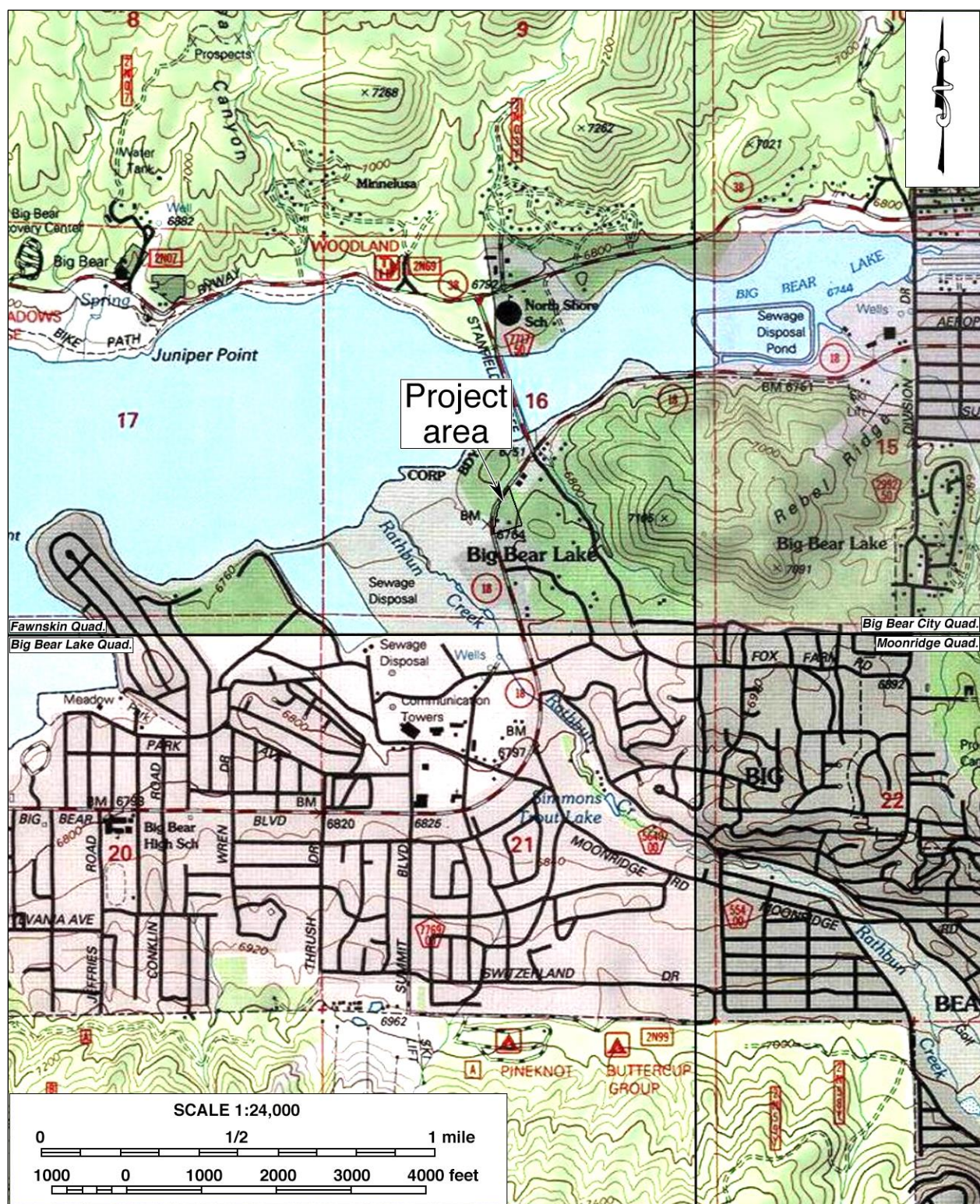


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])



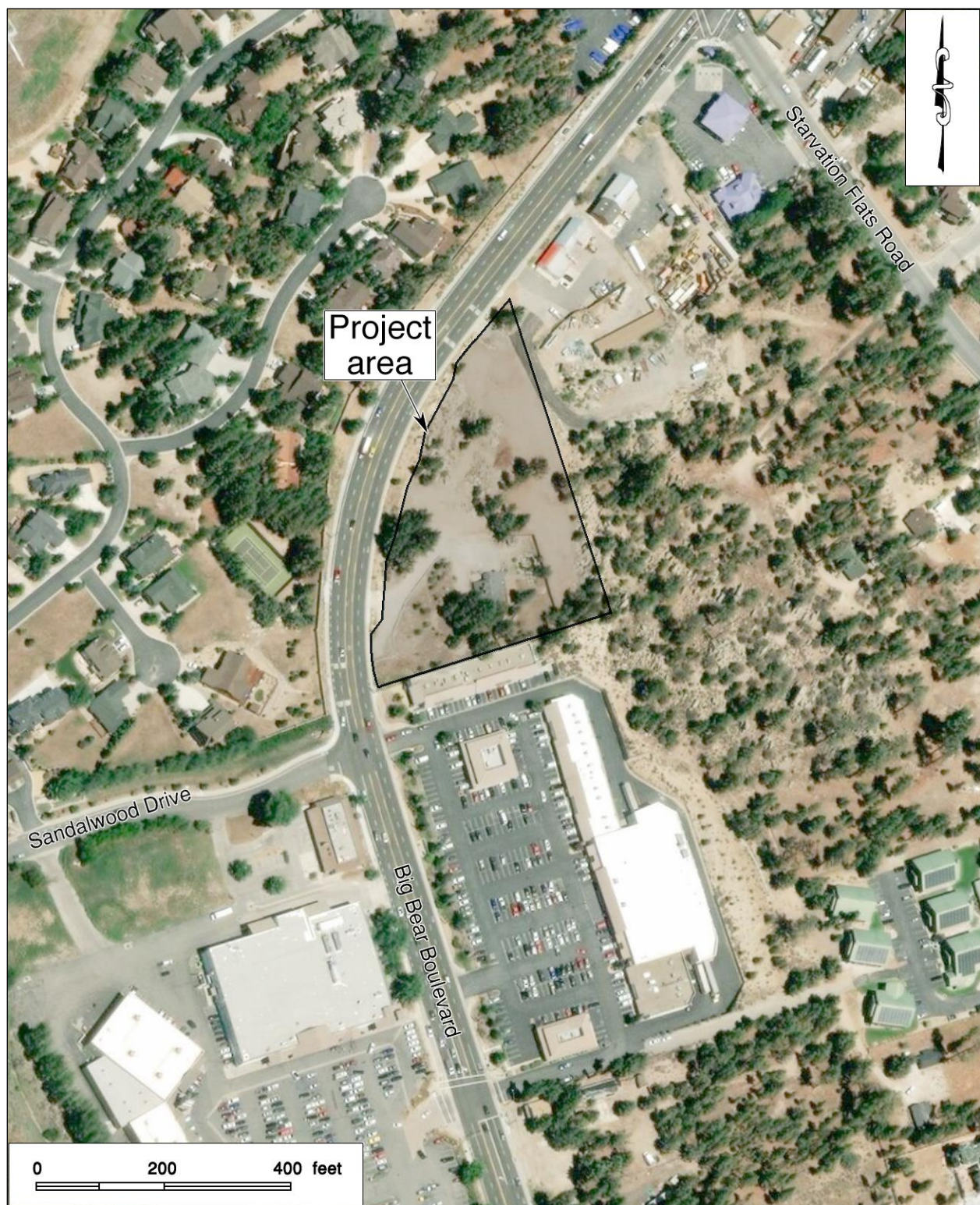


Figure 3. Aerial image of the project area.

SETTING

CURRENT NATURAL SETTING

Situated in the central portion of Big Bear Valley and deep in the San Bernardino Mountains, the project vicinity enjoys an alpine climate and a forest-dominated environment, in sharp contrast to the Mediterranean climate and desert environment in most of southern California. Temperatures in Big Bear Valley vary from an average low of nine degrees Fahrenheit in January to an average high of 89 degrees in July, much closer to the national average than to that of the nearby San Bernardino-Riverside region (NOAA 2018). The average annual precipitation reaches more than 18 inches of rainfall and 35 inches of snowfall (*ibid.*).

The project location is near the southeastern shore of Big Bear Lake, a man-made reservoir, and in the eastern portion of the City of Big Bear Lake. The irregularly shaped project area is bounded on the north and the west by Big Bear Boulevard and abuts commercial property to the south and the northeast, with a patch of pine wood littered with granitic bedrock outcrops lying adjacent to the east (Fig. 3). Nearly all of the ground surface in the project area has been extensively disturbed by past construction and demolition activities, and much of it is covered by imported gravel (Fig. 4).

The existing residence, a storage shed, and an empty koi pond occupy the southern portion of the property, and large granitic boulders are found in the northern and eastern portions. The scattered vegetation consists primarily of rabbitbrush, foxtail, and other small shrubs and grasses, along with clusters of pine trees. Elevations within the project boundaries range approximately between 6,780 feet and 6,800 feet above mean sea level, and the terrain is relatively level. Surface soils in the project area consist of fine- to coarse-grained sands mixed with gravels and small rocks from decomposing granite and take on a grayish brown color around the outcrops.



Figure 4. Overview of the project area. (Photograph taken on May 15, 2020; view to the southwest)

CULTURAL SETTING

Archaeological Context

The earliest evidence of human occupation in inland southern California was discovered below the surface of an alluvial fan in the northern portion of the Lakeview Mountains, overlooking the San Jacinto Valley, with radiocarbon dates clustering around 9,500 before present (B.P.; Horne and McDougall 2008). Another site found near the shoreline of Lake Elsinore, close to the confluence of Temescal Wash and the San Jacinto River, yielded radiocarbon dates between 8,000 and 9,000 B.P. (Grenda 1997). Additional sites with isolated Archaic dart points, bifaces, and other associated lithic artifacts from the same age range have been found in the Cajon Pass area of the San Bernardino Mountains, typically on top of knolls with good viewsheds (Basgall and True 1985; Goodman and McDonald 2001; Goodman 2002; Milburn et al. 2008).

The cultural history of southern California has been summarized into numerous chronologies, including those developed by Chartkoff and Chartkoff (1984), Warren (1984), and others. Specifically, the prehistory of the inland region has been addressed by O'Connell et al. (1974), McDonald et al. (1987), Keller and McCarthy (1989), Grenda (1993), Goldberg (2001), and Horne and McDougall (2008). Although the beginning and ending dates of the recognized cultural horizons vary among different parts of the region, the general framework for the prehistory can be broken into three primary periods:

- **Paleoindian Period (ca. 18,000-9,000 B.P.):** Native peoples of this period created fluted spearhead bases designed to be hafted to wooden shafts. The distinctive method of thinning bifaces and spearhead preforms by removing long, linear flakes leaves diagnostic Paleoindian markers at tool-making sites. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Sites from this period are very sparse across the landscape and most are deeply buried.
- **Archaic Period (ca. 9,000-1,500 B.P.):** Archaic sites are characterized by abundant lithic scatters of considerable size with many biface thinning flakes, bifacial preforms broken during manufacture, and well-made groundstone bowls and basin metates. As a consequence of making dart points, many biface thinning waste flakes were generated at individual production stations, which is a diagnostic feature of Archaic sites.
- **Late Prehistoric Period (ca. 1,500 B.P.-contact):** Sites from this period typically contain small lithic scatters from the manufacture of small arrow points, expedient groundstone tools such as tabular metates and unshaped manos, wooden mortars with stone pestles, acorn or mesquite bean granaries, ceramic vessels, shell beads suggestive of extensive trading networks, and steatite implements such as pipes and arrow shaft straighteners.

Ethnohistorical Context

Big Bear Valley lies in the heart of the homeland of the Serrano people, which is centered in the San Bernardino Mountains. Together with that of the Vanyume people, linguistically a subgroup, the traditional territory of the Serrano also includes part of the San Gabriel Mountains, much of the San Bernardino Valley, and the Mojave River valley in the southern portion of the Mojave Desert,

reaching as far east as the Cady, Bullion, Sheep Hole, and Coxcomb Mountains. The name “Serrano” was derived from a Spanish term meaning “mountaineer” or “highlander.” The basic written sources on Serrano culture are Kroeber (1925), Strong (1929), and Bean and Smith (1978). The following ethnographic discussion of the Serrano people is based mainly on these sources.

Prior to European contact, the Serrano were primarily hunter-gatherers and occasionally fishers, and settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains. They were loosely organized into exogamous clans, which were led by hereditary heads, and the clans in turn were affiliated with one of two exogamous moieties. The clans were patrilineal, but their exact structure, function, and number are unknown, except that each clan was the largest autonomous political and landholding unit. There was no pan-tribal political union among the clans, but they shared strong trade, ceremonial, and marital connections that sometimes also extended to other surrounding nations, such as the Kitanemuk, the Tataviam, and the Cahuilla.

In Serrano oral tradition, the Big Bear Valley area is known as Yuhaaviat, or “Pine Place,” and is remembered as the point of origin for the nearby San Manuel Band of Mission Indians (Ramos 2009). It is well-documented in ethnographic literature that Big Bear Valley figures prominently in the Serrano creation story. As Kroeber (1925:619) notes:

Kukitat [younger brother of Pakrokitat, creator of Man], feeling death approach, gave instructions for his cremation; but the suspected coyote, although sent away on a pretended errand, returned in time to squeeze through badger’s legs in the circle of the mourners and make away with Kukitat’s heart. This happened at Hatauva (compare Luiseño Tova, where Wiyot died) in Bear Valley.

In a newspaper article, James Ramos, former Chairman of the San Manuel Band of Mission Indians, generally corroborates Kroeber’s account and provides the accurate spelling of the deities’ names in the Serrano language, Kruktat and Pakruktat (Ramos 2009). In addition, he identifies the location of Hatauva as being in the general vicinity of a white quartz dome known to tribal members as Aapahunane’t, or “God’s Eye,” near Baldwin Lake (*ibid.*).

At least two Serrano clans lived in or near Big Bear Valley during prehistoric and protohistoric times, according to Strong (1929:11). The Yuhavetum (or Yuhaaviatam, as spelled by the San Manuel Band of Mission Indians) clan’s territory stretched from Big Bear Valley to the present-day Highland area in the San Bernardino Valley. The Pervetum clan’s territory extended from the vicinity of Big Bear Valley to the headwaters of the Santa Ana River, across Sugarloaf Mountain. The two clans often intermarried.

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was negligible until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano territory. Between then and the end of the mission era in 1834, most of the Serrano in the western portion of their traditional territory were removed to the nearby missions. In the eastern portion, a series of punitive expeditions in 1866-1870 resulted in the death or displacement of almost all remaining Serrano population in the San Bernardino Mountains. Today, most Serrano descendants are affiliated with the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, or the Serrano Nation of Indians.

Historical Context

In 1772, a small force of Spanish soldiers under the command of Pedro Fages, military *comandante* of Alta California, became the first Europeans to set foot in the San Bernardino Mountains, followed shortly afterwards by the famed explorer Francisco Garcés in 1776 (Beck and Haase 1974:15). During the next 70 years, however, the Spanish and Mexican colonization activities in Alta California, concentrated predominantly in the coastal regions, left little physical impact on the San Bernardinos. Aside from occasional explorations and punitive expeditions against livestock raiders, the mountainous hinterland of California remained largely beyond the attention of the missionaries, the *rancheros*, and the provincial authorities. The name “San Bernardino” was bestowed on the region in the 1810s, when the mission *asistencia* and an associated rancho were established under that name in present-day Loma Linda (Lerch and Haenszel 1981).

For the Big Bear Valley area, the historic period began in 1845, when Benjamin “Benito” Wilson, a prominent early settler in southern California, and a group of young *Californios* “discovered” the valley while avenging an Indian raid and named it aptly for the large number of grizzly bears they observed (Drake 1949:12). Since then, Big Bear Valley has undergone a gradual transition from bustling lumber and mining industries to lucrative cattle raising enterprises and the hub of an ambitious irrigation campaign, and finally to a favored mountain resort. Underlying these chapters in Big Bear Valley history are themes common to the southern California region at large: early settlement, transportation, resource procurement, and urban/suburban growth.

After the U.S. annexation of Alta California in 1848, the rich resources offered by the San Bernardino Mountains brought about drastic changes, spurred by the influxes of settlers from the eastern United States. Beginning in the early 1850s, the dense forest covering the mountainside became the scene—and victim—of a booming lumber industry, which brought the first wagon roads and industrial establishments into the San Bernardinos. However, the lumber industry was concentrated on the western end of the mountain range, with less impact to the area east of Running Springs and Green Valley (Robinson 1989:23). In Big Bear Valley, lumbering was largely limited to a number of small sawmills in support of local construction (*ibid.*:44-45).

Mining in Big Bear Valley dates back to at least 1855, when gold was discovered near Baldwin Lake (Robinson 1989:47). Then in 1860, William F. Holcomb hit “pay dirt” on a hillside above Big Bear Valley, and later again in the valley now bearing his name, triggering a gold rush that brought 1,000 prospectors to the San Bernardino Mountains by that fall (Holcomb 1900:273-276; Robinson 1989:48-50). Mining boom towns replete with saloons, dance halls, gambling dens, and bagnios as well as stores, hotels, restaurants, and even a brewery soon sprang up in the mountain valleys (Robinson 1989:48-51). By the late 19th century, mining was big business, with Elias J. “Lucky” Baldwin’s Gold Mountain Mining Company usurping individual prospectors as the dominant force in the industry (Drake 1949:19; Robinson 1989:57-71). Still, the much-anticipated “mother lode” was never found, and by the late 1940s mining was no longer the leading industry in the valley (Core 1980:11-12; Robinson 1989:57, 61-62, 70-71).

Around the same time as the Bear-Holcomb Valley gold rush, the region’s reputation as a premium summer grazing ground for sheep and cattle also grew, with Big Bear Valley at the epicenter (Robinson 1989:85). Some of the most prominent figures in early local history, including Augustus

“Gus” Knight, Sr., James W. Smart, John R. Metcalf, and the Talmadge brothers, were also among those at the forefront of the cattle industry (*ibid.*:85-86). William, Frank, and John Talmadge, in particular, by 1928 had amassed over 1,000 head, the largest herd in Big Bear Valley (Robinson 1989:88). Beef sales from the valley peaked in 1921 before going into decline afterwards, as increasing resort and residential development drove up real estate value and shrank the availability of pastureland (Drake 1949:25; Robinson 1989:88, 93-94).

Along with its colorful history in lumber, gold, and cattle, the City of Big Bear Lake owes its birth to a great extent to its namesake reservoir, which was originally created for the purpose of irrigating the vast citrus groves below in the eastern San Bernardino Valley. Frank E. Brown and Edward G. Judson, founders of the Redlands colony, organized the Bear Valley Land and Water Company in 1883 and completed construction of the Bear Valley dam in 1884 (Robinson 1989:170). The reservoir was filled during the following winter (Hall 1888:188; Hinckley 1974:41).

The project’s much-celebrated success was cut short over the next five years as the company’s successors attempted to expand the irrigation scheme into Riverside County and became overextended (Robinson 1989:173). A financial panic in 1893 was later compounded in the late 1890s by drought so severe that Big Bear Lake completely dried up in the summers of 1898, 1899, and 1900 (Hinckley 1983:1). As a remedy, in 1903 citrus growers in the Redlands-Highland area incorporated as the Bear Valley Mutual Water Company and took over the Bear Valley system (*ibid.*:1-2; Robinson 1989:173). Between 1910 and 1912, the new water company constructed the second Big Bear dam that is still in use today (Hinckley 1974:43; 1983:11). The new dam, although only 20 feet higher than the first, substantially increased the size of the reservoir and nearly tripled its capacity (Robinson 1989:174).

By the 1890s, excessive logging and sheep grazing in the San Bernardino Mountains had given rise to a forest conservation movement among residents of the San Bernardino Valley to protect the watershed. In 1893, the movement succeeded in persuading the U.S. government to create the San Bernardino Forest Reserve, later renamed the San Bernardino National Forest, and over the next few decades effectively brought an end to logging and sheep grazing in the San Bernardino Mountains (Robinson 1989:88-9; Robinson and Risher 1990:9).

The creation of Big Bear Lake proved a powerful lure for vacationers and sportsmen, who would commandeer the log cabins left by construction crews (Atchley 1980:21-22). In 1887, the state authorities stocked the lake with thousands of Lake Tahoe trout, signaling the beginning of its development as a recreational property (*ibid.*:22). Three decades later, in 1916, the Bear Valley Mutual Water Company officially dedicated the lake surface to the free use by the public for hunting, fishing, and boating (Hinckley 1983:43, 79), thereby guaranteeing Big Bear Valley’s future as one of the most popular mountain resorts in southern California.

The first commercial resort established on the lakeshore was Gus Knight, Jr., and John Metcalf’s Bear Valley Hotel, which opened for business in 1888 (Atchley 1980:22-23). After the Redlands-based Pine Knot Resort Company purchased the hotel in 1906 and renamed it the Pine Knot Lodge, a small community bearing the same name began to form around the lodge (Robinson 1989:181-182). Knight would later develop the Wild Rose Park and Knight’s Camp (*ibid.*), and in the meantime became a tireless promoter for the construction of new and better roads between the San Bernardino Valley and his resorts. His efforts helped bring roads through City Creek Canyon

(1892), Mill Creek Canyon (1888), and Santa Ana Canyon (1899), and culminated with the completion of Rim of the World Drive in 1915 (Atchley 1980:23-26; Robinson 1989:179-183).

The completion of Rim of the World Drive brought about an exponential rise in the number of resorts in Big Bear Valley from two in 1913 to 52 in 1921 (Drake 1949:26; Robinson 1989:183-185). Winter snow in the mountains held its own attraction and brought a new set of residents and visitors as the Big Bear Lake area became a year-round getaway. A popular but rudimentary ski jump built in 1932 to the south of Pine Knot spurred the formation of the Big Bear Lake Park District, which in turn brought about the first ski lift in Big Bear Valley in 1949 (Robinson 1989:193-194). Since then, winter sports have become one of Big Bear Valley's leading attractions.

Adding to the allure, in the early 20th century Hollywood moviemakers found Big Bear Lake to be a suitable scenic backdrop for films such as *Paint Your Wagon*, *The Parent Trap*, *Bonanza*, *Kissin' Cousins*, and *Dr. Dolittle* (Atchley 1980:24-25). In 1916, the Bear Valley Mutual Water Company started a land boom in Big Bear Valley when it created a subsidiary, the Bear Valley Development Company, to subdivide, sell, and lease the company's land holdings around the reservoir (Hinckley 1983:42). Other landowners in the valley, such as the Knights and the Talmadges, soon joined in to take advantage of the increasing popularity of Big Bear Lake (Robinson 1989:187). The boom continued into the 1920s, with summer homes springing up at the rate of 50 to 100 per year (Robinson 1989:189).

In the meantime, fox farming began to boom in Big Bear Valley during the 1920s, after Maine native R.T. Moore acquired 84 acres east of Pine Knot and established Borestone Ranch (Core 2005:141). Moore based his decision on the high altitude and dry air that were deterrents to parasites and other elements that could endanger the animals, coupled with cool summer nights and seasonal change that insured thick, luxurious pelts on a dependable schedule. The Great Depression era of the 1930s proved to be a boost for the fur business, as talking movies became the norm and stars donned glamorous furs to their gala openings and other events. In 1936, the superb quality of Big Bear Valley furs received a formal recognition when a large consignment to the International Fur Exchange in London brought the highest prices of any shipment ever made (*ibid.*:142).

In 1938, Pine Knot (now "the Village") and its surrounding area came to be known as the community of Big Bear Lake, while a smaller cluster of homes and hostelrys between Big Bear and Baldwin Lakes became Big Bear City (Robinson 1989:193). Since the end of World War II, the dramatic urban expansion in southern California has also reached Big Bear Valley, transforming Big Bear Lake into a community of more than 5,000 regular residents with 100,000 visitors on holiday weekends (*ibid.*:195; USCB n.d.). In 1980, the City of Big Bear Lake was incorporated as the first municipality in the San Bernardino Mountains.

RESEARCH METHODS

HISTORICAL/ARCHAEOLOGICAL RESOURCES RECORDS SEARCH

Due to facility closure during the COVID-19 pandemic and the resulting delays, a records search for this study could not be obtained in time from the South Central Coastal Information Center (SCCIC),

California State University, Fullerton, which is the State of California's official cultural resource records repository for the County of San Bernardino. Instead, the results of a previous records search that was focused on the adjacent segment of Big Bear Boulevard and conducted by CRM TECH archaeologist Nina Gallardo at SCCIC on August 27, 2019, were reviewed for information pertaining to the current project area.

As a part of that records search, Gallardo examined maps and records on file at SCCIC for previously identified cultural resources and existing cultural resources reports within a one-mile radius. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or San Bernardino County Historical Landmarks as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

SACRED LANDS FILE SEARCH

In order to identify any known Native American cultural resources in or near the project area, on April 30, 2020, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code §21074, and is tasked with identifying and cataloging properties of Native American cultural value, including places of special religious, spiritual, or social significance and known graves and cemeteries throughout the state. The response from NAHC is summarized below and attached to this report in Appendix 2.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH historian/architectural historian Terri Jacquemain on the basis of published literature in local and regional history, real property transaction and assessment records of the County of San Bernardino, various online genealogical databases available at ancestry.com, and an oral historical interview with current property owner and longtime local resident Jacques P. Montero. Other sources consulted for pertinent information include U.S. General Land Office (GLO) land survey plat map dated 1877, U.S. Geological Survey (USGS) topographic maps dated 1902-1996, and aerial photographs taken in 1938-2018, which are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On May 15, 2020, CRM TECH archaeologist Daniel Ballester carried out the pedestrian field survey of the project area. The survey was completed at an intensive level by walking a series of parallel northwest-southeast and southwest-northeast transects spaced 10 meters (approximately 33 feet) apart. In this way, the ground surface in the entire project area was systematically examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older). Ground visibility was poor where the surface was obscured by vegetation, duff, or imported gravel but was excellent in areas that have been cleared. In light of the extent of past ground disturbances on the property, visibility was considered adequate for the survey efforts.

All granitic bedrock boulders on the property were closely inspected for milling features or other signs of human modifications during the survey. When archaeological features or artifacts were discovered, their locations were marked with survey flags. Upon completion of the survey, further field recordation, including descriptions of the features or artifacts, a location map with UTM coordinates, and a scaled sketch map, were completed to document the exact locations and nature of the finds. The field maps and descriptions were then compiled into a standard site record form and submitted to SCCIC for inclusion in the California Historical Resources Information System (see App. 3).

After the completion of the archaeological survey, Ballester carried out a field inspection of all built-environment features in the project area and field-recorded those that appeared to be more than 50 years old. Most notably, the existing residence on the property has evidently been significantly altered in more recent times but appears to be of historical origin and retains sufficient historical elements to warrant formal recordation. To facilitate proper recordation, Ballester made detailed notations and preliminary photo-documentation of the structural and architectural characteristics of the residence and its current conditions. Based on Ballester's notes and photographs, CRM TECH principal investigator Bai "Tom" Tang completed the building description and the historic integrity assessment on the residence. The resulting data were also compiled into record forms and submitted to SCCIC (see App. 3).

RESULTS AND FINDINGS

PREVIOUS CULTURAL RESOURCES STUDIES IN THE VICINITY

The records search results indicate that the current project area was included, either partially or entirely, in at least 11 cultural resources studies on file at SCCIC, ranging in date from 1976 to 2004, but none of these past studies included an intensive-level field survey of the project area as a whole. SCCIC records further indicate that an archaeological site of predominantly prehistoric (i.e., Native American) origin, designated 36-001650 (CA-SBR-1650/H) in the California Historical Resources Inventory, was previously recorded as lying partially within the project area.

Formerly designated SBCM-44 or the Godwin Curve Site, 36-001650 was originally recorded in 1939 as a "campsite near large granite outcroppings" that contained "milling features [and] fire stones" (Smith and Sayles 1939). In 1976-1977, the portion of the site on the east side of the original alignment of Big Bear Boulevard was excavated in preparation for a road realignment project, and artifacts from both prehistoric and historic periods were recovered during the excavation (Lipp and Daly 1976:1). The western portion of Site 36-001650 was included in an intensive-level field survey for a residential subdivision (now the Eagle Knoll Estates) in 1979, but no cultural remains were found during that survey (SBCMA 1979:2).

Based on the results of the 1976-1977 test excavation, the prehistoric component of Site 36-001650 was found to be the remnants of seasonal occupation or temporary use (Lipp and Daly 1977:11; Hammond 1977:3). Due to its previously compromised depositional integrity and the lack of potential for important archaeological data, Site 36-001650 as a whole was determined not to be eligible for listing in the National Register of Historic Places through formal consultation with the California State Historic Preservation Officer (*ibid.*; Compton 1986:3). Subsequently, the eastern

portion of the site was impacted by the realignment of Big Bear Boulevard, and the western portion is now occupied by the Eagle Knoll Estates development. More recently, in September 2019 the site was re-visited on both sides of Big Bear Boulevard, but no archaeological features or artifacts were found (Hogan et al. 2020:16-17).

Within a one-mile radius of the current project location, SCCIC records show more than 50 other previous studies on various tracts of land and linear features. In all, more than 90% of the land within the scope of the records search has been surveyed, resulting in the recordation of 20 additional sites and nine isolates (i.e., localities with fewer than three artifacts). Seven of the sites and all of the isolates were prehistoric in origin, consisting mainly of temporary campsites, bedrock milling features, and scattered lithic and ceramic artifacts. The vast majority of these localities were recorded on the mountainside along the northern shore of Big Bear Lake.

The other 13 sites dated to the historic period and included buildings, structural remains, refuse scatters, mining sites, roads, and a well. The only site in close proximity to the project area, 36-007049, represents the 1915 alignment of Rim of the World Drive (now State Route 18), known as the Crest Route. Today, the entire length of Big Bear Boulevard except the eastern end is designated a part of State Route 18, but the segment of the road adjacent to the project area has been documented to be a modern feature resulting from realignment, reconstruction, and widening after the excavations at Site 36-001650 in 1976-1977. Since none of the other sites or isolates was found in the immediate vicinity of the project area, Site 36-001650 is the only previously recorded cultural resource that requires further consideration during this study.

NATIVE AMERICAN HERITAGE COMMISSION RESPONSE

In response to CRM TECH's inquiry, NAHC reported in a letter dated May 13, 2020, that Sacred Lands File identified no Native American cultural resources in the project vicinity. Noting that the absence of specific information would not necessarily indicate the absence of cultural resources, however, NAHC recommended that local Native American groups be consulted for further information and provided a referral list of potential contacts. NAHC's reply is attached to this report in Appendix 2 for reference by the City of Big Bear Lake in future government-to-government consultations with the pertinent tribal groups.

HISTORICAL OVERVIEW

Situated northeast of the urban core of the City of Big Bear Lake and approximately 1.5 miles from the historic center of the community, the project vicinity nevertheless mirrors the growth pattern of the region at large (Figs. 5-7). Prior to the construction of the Big Bear Lake reservoir, an Indian trail running more than a half-mile to the northeast of the project area was the only man-made feature noted in the vicinity during a series of land surveys conducted by the U.S. government between 1857 and 1876 (Fig. 5). Around the turn of the century, several winding roads crisscrossed an evidently unsettled and undeveloped landscape around the project location, including one running near the southwestern tip of the project area (Fig. 6).

As mentioned above, the completion of the new dam in 1910-1912 significantly increased the size of Big Bear Lake. As a result, much of the 1890s road system in the vicinity became inundated (NETR Online 1938; Fig. 7). By the 1930s-1940s, most of the major roads in the area today were in place,

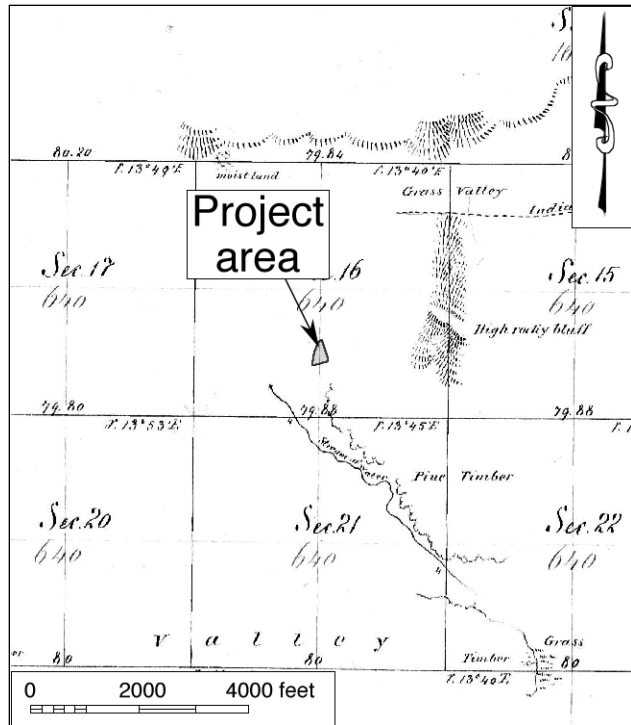


Figure 5. Project area and vicinity in 1857-1876. (Source: GLO 1877)

including Big Bear Boulevard along its pre-1970s alignment (*ibid.*). Also by then, several buildings were present in the project area, around the location of the residence at 42175 Big Bear Boulevard, as discussed further below (*ibid.*). They were followed by the commercial property to the northeast of the project location, which was developed between 1945 and 1952 (NETR Online 1945; 1952). During the 1970s-1980s, a significant growth spurt took place in the project vicinity. Big Bear Boulevard, a narrow two-lane road in the 1960s, was slightly realigned in the 1970s and then substantially widened in the 1980s (NETR Online 1969; 1995; Hammond 1977; Compton 1986). Around the same time, the shopping center to the south of the project area and the Eagle Knoll Estates development across Big Bear Boulevard also came into being, essentially giving the surrounding area its present-day character (NETR Online 1969; 1995).

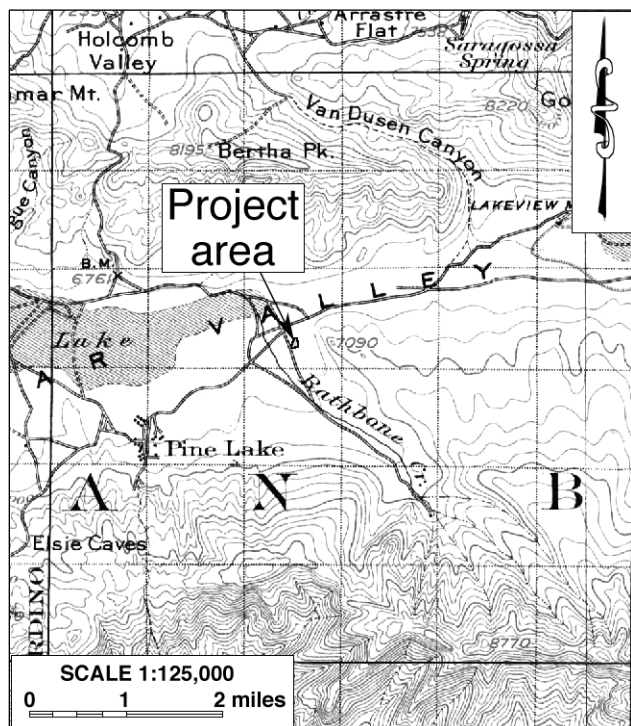


Figure 6. Project area and vicinity in 1899. (Source: USGS 1902)

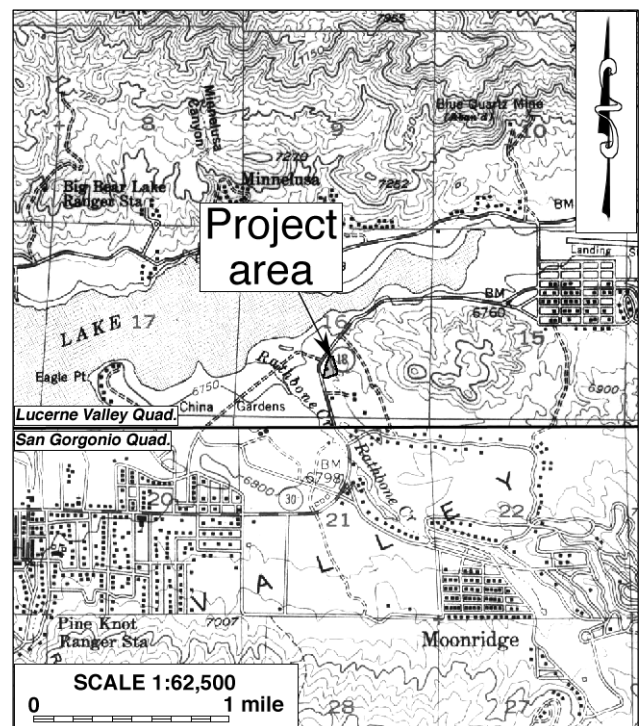


Figure 7. Project area and vicinity in 1945-1954. (Source: USGS 1947; 1954)

POTENTIAL “HISTORICAL RESOURCES” IN THE PROJECT AREA

During the field survey, no milling features, artifacts, or other physical remains of the previously recorded prehistoric site, 36-001650, were found within the project boundaries. Meanwhile, the existing residence, originally constructed around 1932, and a previously unknown prehistoric archaeological site in the project area, consisting of two bedrock milling features and a metate, were recorded during this study and designated temporarily as Sites CRM TECH 3614-1H and CRM TECH 3614-2, respectively, pending assignment of official site numbers in the California Historical Resources Inventory by the SCCIC (see App. 3). These sites are discussed further below.

Site CRM TECH 3641-1H (Residence at 42175 Big Bear Boulevard)

The residence in the project area, which faces Big Bear Boulevard to the west, is an irregularly shaped wood-frame building demonstrating the typical architectural characters of a vernacular farmhouse of the early 20th century (Fig. 8). The building consists of a one-and-a-half-story main mass and several single-story extensions at the northwestern, northeastern, and southeastern corners. The main mass is surmounted by a high-pitched cross-gable roof with medium-width eave and rake overhangs trimmed with fascia and verge boards, while the extensions have low-pitched shed roofs with wide overhangs. The entire roof is covered with gray composition shingles. The entire roof is covered with gray composition shingles.



Figure 8. Residence at 14275 Big Bear Boulevard, view to the northeast. (Photograph taken on May 15, 2020).

Most of the house rests on raised fieldstone footings, while a lean-to at the northeastern corner, apparently a later addition, is built on a concrete slab foundation. The exterior walls of the house are mostly clad with wood-shingles that are painted dark brown, in sharp contrast to the white trim, except the addition in the rear that sports plain wood panels. A stone-lined patio at the northwestern corner, surrounded by low stone walls and accessed via three stone steps, and a wooden deck in the rear, surrounded by wooden lattice railings and accessed via five wooden steps, complete the footprint of the building.

Doors and windows to the house are of a wide variety of materials and styles, further indicating the extent of alterations since its initial construction (see App. 3 for further details). An exterior window found in an interior wall dividing the lean-to extension at the northwestern corner from the rest of the house and a bank of wood-framed double-hung windows that is partially obscured by the northernmost wing indicate that those portions of the building were also later additions. The rock-lined koi pond, now empty and dry, and the small wooden storage shed accompany the house to its rear, both of which appear to be modern in origin. Wooden fences with decorative lattice topping enclose parts of the perimeter of the property and a small yard behind the house.

According to archival records, improvement occurred on this property as early as 1932 (County of San Bernardino n.d.). By 1938, a building is known to be present at this location (NETR Online 1938). It was accompanied by some five smaller buildings at the time, but by 1969 the other buildings had all been removed (NETR Online 1938-1969). The Bear Valley Mutual Water Company was identified as the property owner until 1945, when the portion of the land containing the residence was deeded to Charles W. (1882-1952) and Lucy G. Alvord (County of San Bernardino 1945-1956). Charles Alvord, a Michigan-born carpenter who worked as a building contractor, had moved to the Pine Knot area sometime between 1933 and 1940 (Ancestry.com n.d.).

Soon after, the Alvords deeded the property to Lawrence O. (1887-1956) and Edith S. Brownell, who subsequently acquired the rest of the project area from the water company around 1951 (County of San Bernardino 1945-1956). The Brownells lived in Los Angeles throughout their tenure as the owners and may have leased the property to a fox farmer (Ancestry.com; Montero 2020). In 1956, Bernard E. Godwin (1913-1995) and his wife Margueritte E. Godwin (nee Lawrence; 1915-2011), who had settled in the Big Bear Lake area from Minnesota in 1941-1945, acquired the entire project area with the intent of operating a fox farm (County of San Bernardino 1945-1956; 1956-1965; Ancestry.com n.d.).

Bernard Godwin, a medical doctor, subsequently became the namesake of “Godwin’s Curve,” a notoriously sharp bend on the segment of Big Bear Boulevard adjacent to the property until it was realigned in the 1970s, and was often the first to arrive and attend to crash victims of the dangerous road hazard (Montero 2020). While they owned and occupied the residence, during the height of the Cold War, the Godwins contracted local excavator Jim Roman to build a bomb shelter on the property (*ibid.*). Nestled in a boulder outcrop, the 14’x 14’x6.5’ bomb shelter is still extant today, accessed through a wood-framed opening and a 40-foot-long tunnel (*ibid.*).

By the time the Godwins took up fox farming, the heyday of the fur industry in Big Bear Valley had long since waned as operating costs far outweighed demand and profit (Core 2005:147). In 1965, the residence was acquired by Donald R. and Evelyn M. Walker, who had in 1963 operated A & W

Janitorial Services in La Mirada (County of San Bernardino 1956-1965; Ancestry.com n.d.). They remained owners until 1989, while the Godwins retained the northernmost portion of the property until 1981 (County of San Bernardino n.d.). Archival records indicate that the deck and the shed were added around 1973 (*ibid.*). The koi pond was built in 2002-2003 by the immediately previous owners, Douglas C. and Gail F. Mason (*ibid.*; Google Earth 2002; 2003; Montero 2020).

Longtime Big Bear Lake resident Jacque P. Montero acquired the southern portion of the project area in 2018 with plans to possibly rehabilitate the property, including the Godwins' bomb shelter, as a tourist site (County of San Bernardino n.d.; Montero 2020). After discovering that the house was poorly insulated and, in particular, after surveyors found the entrance to the bomb shelter to be located 6-8 feet outside his property line (and the project boundary), Montero decided against the rehabilitation project (Montero 2020).

Site CRM TECH 3614-2 (Prehistoric Milling Features and Metate)

The prehistoric site discovered during this study consists of two bedrock milling features in a cluster of granitic outcrops lying to the south of the residence at CRM TECH 3614-1H, along with a complete metate (Fig. 9). Feature 1 measures approximately 3.0x1.8x0.8 meters and has a total of three milling slicks on it, while Feature 2 is approximately 2.8x1.5x1.3 meters in size and contains a mortar and a modified depression (see App. 3 for further details). The granitic bifacial metate, found with the bottom side up next to a large boulder, measures approximately 37x36x26 centimeters. Dark soil, possibly midden, was observed around the base of the some of the boulders.



Figure 9. Bedrock milling feature (*left*) with mortar and modified depression (*right*). (Photographs taken on May 15, 2020).

DISCUSSION

APPLICABLE STATUTORY/REGULATORY FRAMEWORK

The purpose of this study is to identify any cultural resources within the project area and to assist the City of Big Bear Lake in determining whether such resources meet the official definition of

“historical resources,” as provided in the California Public Resources Code, in particular CEQA. According to PRC §5020.1(j), “‘historical resource’ includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

More specifically, CEQA guidelines state that the term “historical resources” applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that “generally a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

SITE EVALUATION

In summary of the research results outlined above, Site 36-001650, primarily a prehistoric campsite, was previously recorded as lying partially within the project area, but the site has been formally determined not to be eligible for listing in the National Register of Historic Places, for which the criteria are essentially identical to those for the California Register, and no archaeological remains were found in the site area during this study. Site 36-001650, therefore, requires no further consideration during this study. The two sites known to be present in the project area, CRM TECH 3614-1H and CRM TECH 3614-2, are evaluated during this study against the criteria for the California Register, and the conclusions are presented below.

Site CRM TECH 3641-1H (Residence at 14275 Big Bear Boulevard)

Originally built in circa 1932, the residence at 42175 Big Bear Boulevard dates to the early days of the development boom in what is now the City of Big Bear Lake, but the historical background research has not identified any specific events of recognized significance in close association with the building, nor does the building demonstrate a unique, remarkable, or particularly close association with the growth of the community as a historic theme. During the historic period, the residence was owned and, in some cases, occupied by Charles and Lucy Alvord, Lawrence and Edith Brownell, Bernard and Margueritte Godwin, and Donald and Evelyn Walker, and none of them is known to have attained the level of historic significance required by the California Register criteria. Furthermore, in light of the extent of alterations that it has received in recent decades, the residence no longer retains sufficient historic integrity to relate to any persons or events in its early history, or to the historic period in general.

In terms of architectural or aesthetic merits, the residence does not represent an important example of any architectural style, property type, period, region, and method of construction, nor is it known to embody the work of a prominent architect, designer, or builder. Additionally, the residence holds little promise for important historical or archaeological data for the study of the early growth of the Big Bear Lake area, a subject that is well documented in existing literature. Based on these findings, the present study concludes that the residence at 42175 Big Bear Boulevard does not appear to meet any of the criteria for listing in the California Register of Historical Resources, and does not qualify as a “historical resource” under CEQA provisions.

Site CRM TECH 3614-2 (Prehistoric Milling Features and Metate)

The cultural remains recorded at CRM TECH 3614-2 include two bedrock milling features and a metate, which are very common at Native American sites in Big Bear Valley and throughout southern California. The mortar found at the site, however, is a less common feature than the ubiquitous grinding slicks and suggests long-term and repeated use. In addition, the dark soil observed at the base of some of the boulders may indicate the presence of additional artifacts of unknown quality and quality in subsurface deposits at or near this location.

It is worth noting that at the granitic outcrops at Site 36-001650 in another part of the project area, artifacts from both prehistoric and historic periods were recovered during archaeological excavations in 1976-1977 (Lipp and Daly 1976). At this time, the depth and horizontal extent of CRM TECH 3614-2 remain unknown. As a result, the historic significance of CRM TECH 3614-2 and its qualification as a “historical resource” cannot be determined without further archaeological investigations, including subsurface excavations. In order to adequately evaluate the significance of the site, additional research procedures will be necessary, as outlined in the section below.

CONCLUSIONS AND RECOMMENDATIONS

CEQA establishes that “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC §21084.1). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.”

In conclusion, the residence at 42175 Big Bear Boulevard (CRM TECH 3614-1H) is known to be historical in origin but does not appear to meet the statutory definition of a “historical resource,” as provided by CEQA, but the significance of the prehistoric cultural remains recorded at CRM TECH 3614-2 cannot be determined without further archaeological investigations. Based on these findings, CRM TECH presents the following recommendation to the City of Big Bear Lake:

- An archaeological testing and evaluation program should be completed at CRM TECH 3614-2 to ascertain the data potential of the site prior to the commencement of any ground-disturbing activities associated with the project. The scope of the testing program should include surface collection, subsurface excavations, artifact analysis, and permanent curation of recovered artifacts at an appropriate facility.

- Further recommendations regarding the final treatment of CRM TECH 3614-2 will be formulated and presented on the basis of the results of the testing program.
- No further cultural resources investigation will be necessary at 36-001650 and CRM TECH 3614-1H or elsewhere in the project area unless development plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are discovered during earth-moving operations anywhere within the project area, all work at that location should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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**APPENDIX 1:
PERSONNEL QUALIFICATIONS**

**PRINCIPAL INVESTIGATOR/HISTORIAN
Bai “Tom” Tang, M.A.**

Education

- | | |
|-----------|--|
| 1988-1993 | Graduate Program in Public History/Historic Preservation, UC Riverside. |
| 1987 | M.A., American History, Yale University, New Haven, Connecticut. |
| 1982 | B.A., History, Northwestern University, Xi’an, China. |
| 2000 | “Introduction to Section 106 Review,” presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno. |
| 1994 | “Assessing the Significance of Historic Archaeological Sites,” presented by the Historic Preservation Program, University of Nevada, Reno. |

Professional Experience

- | | |
|-----------|--|
| 2002- | Principal Investigator, CRM TECH, Riverside/Colton, California. |
| 1993-2002 | Project Historian/Architectural Historian, CRM TECH, Riverside, California. |
| 1993-1997 | Project Historian, Greenwood and Associates, Pacific Palisades, California. |
| 1991-1993 | Project Historian, Archaeological Research Unit, UC Riverside. |
| 1990 | Intern Researcher, California State Office of Historic Preservation, Sacramento. |
| 1990-1992 | Teaching Assistant, History of Modern World, UC Riverside. |
| 1988-1993 | Research Assistant, American Social History, UC Riverside. |
| 1985-1988 | Research Assistant, Modern Chinese History, Yale University. |
| 1985-1986 | Teaching Assistant, Modern Chinese History, Yale University. |
| 1982-1985 | Lecturer, History, Xi’an Foreign Languages Institute, Xi’an, China. |

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California’s Cultural Resources Inventory System (With Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST

Michael Hogan, Ph.D., RPA*

Education

- 1991 Ph.D., Anthropology, University of California, Riverside.
- 1981 B.S., Anthropology, University of California, Riverside; with honors.
- 1980-1981 Education Abroad Program, Lima, Peru.

- 2002 Section 106—National Historic Preservation Act: Federal Law at the Local Level.
UCLA Extension Course #888.
- 2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,
Historical Archaeologist.
- 2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the
Association of Environmental Professionals.
- 1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
- 1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
- 1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside.
- 1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands.
- 1992-1998 Assistant Research Anthropologist, University of California, Riverside
- 1992-1995 Project Director, Archaeological Research Unit, U. C. Riverside.
- 1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C.
Riverside, Chapman University, and San Bernardino Valley College.
- 1991-1992 Crew Chief, Archaeological Research Unit, U. C. Riverside.
- 1984-1998 Archaeological Technician, Field Director, and Project Director for various southern
California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Author and co-author of, contributor to, and principal investigator for numerous cultural resources management study reports since 1986.

Memberships

* Register of Professional Archaeologists; Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PROJECT HISTORIAN/ARCHITECTURAL HISTORIAN
Terri Jacquemain, M.A.

Education

- 2004 M.A., Public History and Historic Resource Management, University of California, Riverside.
- 2002 B.S., Anthropology, University of California, Riverside.
- 2001 Archaeological Field School, University of California, Riverside.
- 1991 A.A., Riverside Community College, Norco Campus.

Professional Experience

- 2003- Historian/Architectural Historian/Report Writer, CRM TECH, Riverside/Colton, California.
- 2002-2003 Teaching Assistant, Religious Studies Department, University of California, Riverside.
- 2002 Interim Public Information Officer, Cabazon Band of Mission Indians.
- 2000 Administrative Assistant, Native American Student Programs, University of California, Riverside.
- 1997-2000 Reporter, *Inland Valley Daily Bulletin*, Ontario, California.
- 1991-1997 Reporter, *The Press-Enterprise*, Riverside, California.

Membership

California Preservation Foundation.

PROJECT ARCHAEOLOGIST
Nina Gallardo, B.A.

Education

- 2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

- 2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.

Cultural Resources Management Reports

Co-author of and contributor to numerous cultural resources management reports since 2004.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, M.S., RPA*

Education

- | | |
|------|--|
| 2013 | M.S., Geographic Information System (GIS), University of Redlands, California. |
| 1998 | B.A., Anthropology, California State University, San Bernardino. |
| 1997 | Archaeological Field School, University of Las Vegas and University of California, Riverside. |
| 1994 | University of Puerto Rico, Rio Piedras, Puerto Rico. |
| 2007 | Certificate in Geographic Information Systems (GIS), California State University, San Bernardino. |
| 2002 | “Historic Archaeology Workshop,” presented by Richard Norwood, Base Archaeologist, Edwards Air Force Base; presented at CRM TECH, Riverside, California. |

Professional Experience

- | | |
|-----------|---|
| 2002- | Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California. |
| 2011-2012 | GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California. |
| 2009-2010 | Field Crew Chief, Garcia and Associates, San Anselmo, California. |
| 2009-2010 | Field Crew, ECorp, Redlands. |
| 1999-2002 | Project Archaeologist, CRM TECH, Riverside, California. |
| 1998-1999 | Field Crew, K.E.A. Environmental, San Diego, California. |
| 1998 | Field Crew, A.S.M. Affiliates, Encinitas, California. |
| 1998 | Field Crew, Archaeological Research Unit, University of California, Riverside. |

Memberships

*Register of Professional Archaeologists # 18037.

APPENDIX 2

**CORRESPONDENCE WITH
NATIVE AMERICAN HERITAGE COMMISSION**

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916)373-3710
(916)373-5471 (Fax)
nahc@nahc.ca.gov

Project: Proposed Grocery Outlet Project; Assessor's Parcel Numbers 0311-405-01, 0311-395-01 and -02 (CRM TECH No. 3614)

County: San Bernardino

USGS Quadrangle Name: Fawnskin, Calif.

Township 2 North **Range** 1 East **SB BM; Section(s)** 16

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to develop a commercial grocery store on approximately 2.9 acres of land located at 42175 Big Bear Boulevard, in the City of Big Bear Lake, San Bernardino County, California.

April 30, 2020



NATIVE AMERICAN HERITAGE COMMISSION

May 13, 2020

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

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William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Re: Proposed Grocery Outlet Project, San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

**Native American Heritage Commission
Native American Contact List
San Bernardino County
5/13/2020**

**Agua Caliente Band of Cahuilla
Indians**

Jeff Grubbe, Chairperson
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

**Quechan Tribe of the Fort Yuma
Reservation**

Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

**Agua Caliente Band of Cahuilla
Indians**

Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

**San Fernando Band of Mission
Indians**

Donna Yocum, Chairperson
P.O. Box 221838 Kitanemuk
Newhall, CA, 91322 Vanyume
Phone: (503) 539 - 0933 Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

**Morongo Band of Mission
Indians**

Denisa Torres, Cultural Resources
Manager
12700 Pumarra Road Cahuilla
Banning, CA, 92220 Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

**San Manuel Band of Mission
Indians**

Jessica Mauck, Director of
Cultural Resources
26569 Community Center Drive Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
jmauck@sanmanuel-nsn.gov

**Morongo Band of Mission
Indians**

Robert Martin, Chairperson
12700 Pumarra Road Cahuilla
Banning, CA, 92220 Serrano
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

**Serrano Nation of Mission
Indians**

Mark Cochrane, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

**Quechan Tribe of the Fort Yuma
Reservation**

Jill McCormick, Historic
Preservation Officer
P.O. Box 1899 Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

**Serrano Nation of Mission
Indians**

Wayne Walker, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Grocery Outlet Project, San Bernardino County.

APPENDIX 3

**CALIFORNIA HISTORICAL RESOURCES INVENTORY
RECORD FORMS**

**Sites 33-001650, CRM TECH 3614-1H, and CRM TECH 3614-2
(Confidential)**

State of California--The Resources Agency		Primary #	36-001650 (Update)
DEPARTMENT OF PARKS AND RECREATION		HRI #	
CONTINUATION SHEET		Trinomial	CA-SBR-1650/H (Update)
Page <u>1</u> of <u>2</u>	Resource name or # (Assigned by recorder) _____		
Recorded by <u>Daniel Ballester</u>	Date <u>September 12, 2019</u>	Continuation	☒ Update
Form Prepared by <u>Bai "Tom" Tang</u>	Date <u>November 14, 2019</u>		
Affiliation: <u>CRM TECH, Colton</u>	Project No: <u>CRM TECH 3496</u>		

Summary of Previous Archaeological Investigations

Site 36-001650 (CA-SBR-1650/H; previously designated SBCM-44 or the Godwin Curve Site) was originally recorded in 1939 as a "campsite near large granite outcroppings" that contained "milling features [and] fire stones" (Smith and Sayles 1939). In 1976-1977, the portion of the site on the east side of the original alignment of Big Bear Boulevard was excavated in preparation for a road realignment project, and artifacts from both prehistoric and historic periods were recovered during the excavation (Lipp and Daly 1976:1). The western portion of Site 36-001650 was included in an intensive-level field survey for a residential subdivision (now the Eagle Knoll Estates) in 1979, but no cultural remains were found during that survey (SBCMA 1979:2).

Based on the results of the 1976-1977 test excavation, the prehistoric component of Site 36-001650 was found to be the remnants of seasonal occupation or temporary use (Lipp and Daly 1977:11; Hammond 1977:3). Due to its previously compromised depositional integrity and the lack of potential for important archaeological data, Site 36-001650 as a whole was determined not to be eligible for listing in the National Register of Historic Places through formal consultation with the California State Historic Preservation Officer (*ibid.*; Compton 1986:3). Subsequently, the eastern portion of the site was partially impacted by the realignment of Big Bear Boulevard, and the western portion was included in the Eagle Knoll Estates development in the 1980s, with at least one home, a tennis court, and a perimeter wall built partially within the site boundary.

Besides the locality lying across Big Bear Boulevard, the designations 36-001650 and SBCM-44 were also used occasionally in existing records to refer to another group of prehistoric archaeological remains found on a 22-acre tract of land immediately to the north of the area delineated for Site 36-001650 in the California Historical Resources Inventory. Known alternatively as SBCM-44B or the Hamilton Site, that locality was discovered during archaeological surveys conducted in 1977-1978 for another portion of the Eagle Knoll Estates development and was excavated immediately afterwards, as reflected in a series of interim reports (Hearn 1977; 1978; Brown 1978; Simpson 1978a; 1978b). Notably, a field survey in 1978 extended beyond the boundary of that project to include a "rock area to the southwest," probably the outcrops in the western portion of Site 36-001650, where the discovery of an incipient bedrock slick and "considerable evidence of midden" was reported (Brown 1978:n.p.).

The cultural materials observed and recovered at SBCM-44B were primarily groundstone and flaked-stone artifacts, including an unknown number of projectile points (Brown 1978:n.p.; Simpson 1978a:3; 1978b:1-2). Some of the artifacts were thought to be "considerably older" than those collected in 1976-1977 on the east side of Big Bear Boulevard (Simpson 1978b:2), but the final report for the excavation could not be found at the SCCIC. The exact locations of the finds were not documented in any of the existing reports, and no record forms were filed for SBCM-44B, although a hand-drawn map and accompanying notes suggest that the locality was adjacent to the north side of the western portion of Site 36-001650, where some of the homes in Eagle Knoll Estates are located today (Leonard 1978).

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # 36-001650 (Update)
HRI # _____
Trinomial CA-SBR-1650/H (Update)

Page 2 of 2

Resource name or # (Assigned by recorder) _____

Consequently, the area of SBCM-44B was never incorporated into 36-001650, nor was it designated a separate site in the California Historical Resources Inventory.

Results of Field Inspection

On September 12, 2019, the entire area delineated for Site 36-001650, on both sides of Big Bear Boulevard, was inspected at an intensive level, but no archaeological features or artifacts were found. Among the boulder outcrops in the western portion of the site, where a slick and indication of midden soil were reported in 1978, the survey encountered no milling features, nor any clear evidence of midden deposit. As the ground is covered by naturally occurring organic material such as decomposing pine duff, it is difficult to establish the presence of any midden soil at this location.

Report Citation

Michael Hogan, Bai "Tom" Tang, Terri Jacquemain, and Daniel Ballester
2019 Archaeological Survey Report: Alpine Pedal Path - Rathbun Creek Extension
Project, City of Big Bear Lake, San Bernardino County, California.

References Cited (All on file at South Central Coastal Information Center)

- Brown, La Verne A.
1978 Historical and Archaeological Resources Assessment: Escape Marina Club Project, Big Bear Lake, California.
- Compton, Bruce A.
1986 Archaeological Survey Report for the Proposed Widening of State Route 18 between Pine Knot Avenue and Stanfield Cutoff, 08-SBD-18 PM 49.1/51.6.
- Hammond, Stephen R.
1977 Cultural Resource Survey of the Proposed Godwin's Curve Realignment Project on State Route 18, near Big Bear Lake, San Bernardino County.
- Hearn, Joseph E.
1977 Archaeological-Historical Resources Assessment: Escape Marina Club Project, Big Bear Lake.
1978 Archaeological-Historical Resources Assessment: Escape Marina Club Project, Big Bear Lake; revised.
- Leonard, N.N.
1978 Hand-written notes on SBCM-44B (the Hamilton Site); filed as a part of the site record for 36-001650 (CA-SBR-1650/H).
- Lipp, Donald D., and Kenneth Daly
1976 California Historical Resources Inventory record forms, Site 36-001650 (CA-SBR-1650/H; update).
1977 Results of Test Excavations at SBCM-44, Big Bear Area, San Bernardino County, California.
- SBCMA (San Bernardino County Museum Association)
1979 Archaeological Survey: Tract 10693, Big Bear Lake.
- Simpson, Ruth Dee
1978a Inhouse Report: Preliminary Excavations of the Hamilton Site. On file, South Central Coastal Information Center, California State University, Fullerton.
1978b Excavation of the Hamilton Site (SBCM 44B): A Progress Report.
- Smith, Gerald, and R. Sayles
1939 California Historical Resources Inventory record form, Site 36-001650 (CA-SBR-1650/H).

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE RECORD

Permanent Trinomial: CA-SBr-1650/H Supplement (X)
P36-001650
Temporary Number: CA-SBr-1650

Agency Designation:

Page 1 of 5.

1. County: San Bernardino
2. USGS Quad: Fawnskin (7.5') 1971 (15') Photorevised
3. UTM Coordinates: Zone 11 / 510700 Easting / 3790240 Northing ()
4. Township 2N. Range 1E. ; 1/4 of SE 1/4 of NE 1/4 of SW 1/4 of Section 16 Base (Mer.) SBBM (X)
5. Map Coordinates: 550 mS 440 mE (from NW corner of map) 6. Elevation 6764
7. Location: "East side of State Route 18 at Post Mile 51.4"/"immediately adjacent to State Route 18, on east side, - about 1,000 feet south of intersection of Route 18 and Stanfield Cutoff". ()
()
8. Prehistoric X Historic X Protohistoric 9. Site Description: Sparse scatter of lithic flakes and historic bottle glass. This site was apparently a small, temporary occupation site used to exploit seasonal food resources. Cultural remains indicate aboriginal occupation of the site during both prehistoric and historical times. ()
10. Area: 180 m(length)x 44 m(width) 6220 m². Method of Determination: Scaled off aerial photograph ()
11. Depth: 30 cm. Method of Determination: Test excavation. ()
12. Features: None ()
13. Artifacts: One chalcedony projectile point tip, two knives (one quartzite, one andesite), one chert scraper, one andesite modified core tool, 68 lithic flakes (38 quartzite, 13 chalcedony, 12 jasper, 2 obsidian, one quartz, and one chert), one possible mano fragment (granite), one possible metate fragment (quartzite), one flaked historic glass bottle fragment (bottom), two retouched glass flakes, 13 glass flakes, one (1 cm) pot sherd, one 12 gauge shotgun shell and six nails (5 square, 1 unknown). ()
14. Non-artifactual Constituents: None. ()
15. Date Recorded: 12/76 16. Recorded By: Donald Lipp & Kenneth Daly ()
17. Affiliation and Address: Archaeological Research Unit, University of California, Riverside, CA 92521 ()

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE RECORD

Permanent Trinomial: CA-SBr-1650/H / 12/76
mo. yr.
Temporary Number: CA-SBr-1650
Agency Designation: SBCM-44

Page 2 of 5.

18. Human Remains: None evident, nor expected. ()

19. Site Integrity: Poor. Disturbance caused by construction and realignment of State Route 18, adjacent residential and commercial development, and probable vandalism. The remaining site area is included in a planned resort motel. ()

20. Nearest Water (type, distance and direction): Rathbone Creek, 1,000 feet southwest. ()

21. Largest Body of Water within 1 km (type, distance and direction): Same. ()

22. Vegetation Community (site vicinity): Jeffrey pine forest. [Plant List ()] ()

23. Vegetation Community (on site): "Same". [Plant List ()] ()

References for above: Cheatham and Haller, 1976, An Annotated List of California Habitat Types.
In **Terrestrial Vegetation of California**.

1. Site Soil: Gray brown, massive, sandy silt. () 25. Surrounding Soil: pale, massive, fine-gravelly, sand. ()

26. Geology: Quartz monsonite bedrock. () 27. Landform: Low rocky hills. ()

28. Slope: Gentle slopes-highly irregular. () 29. Exposure: Open. ()

30. Landowner(s) (and/or tenants) and Address: Caltrans, 247 W. Third Street, San Bernardino, CA 92401; Dr. and Mrs. Bernard E. Godwin, City of Big Bear Lake, San Bernardino County, CA 92315. ()

31. Remarks: SBr-1650 was determined ineligible for inclusion in the National Register of Historic Places by the SHPO and the Federal Highway Administration in April 1977. ()

32. References: Lipp and Daly, 1977, Results of Test Excavations at SBCM-44, Big Bear Area, San Bernardino County, CA (UCRARU #220). ()

33. Name of Project: Widen State Route 18 between Pine Knot Ave. and Stanfield Cutoff PM 49.1/51.6. ()

34. Type of Investigation: Phase II excavation. ()

35. Site Accession Number: "Unknown". Curated At: San Bernardino County Museum (?). ()

36. Photos: "Unknown". Taken By: "Unknown". ()

37. Photo Accession Number: "Unknown". On File At: "Unknown". ()

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE RECORD
Continuation Sheet

7-36-0016a
Permanent Trinomial: CA-SBr-1650/H / 12/76

no. yr.

Temporary Number: CA-SBr-1650

Agency Designation: SBCM-44

Page 3 of 5 ..

Item No.

Continuation

4. and NE 1/4 of SE 1/4 of SW 1/4 of Section 16.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE LOCATION
MAP

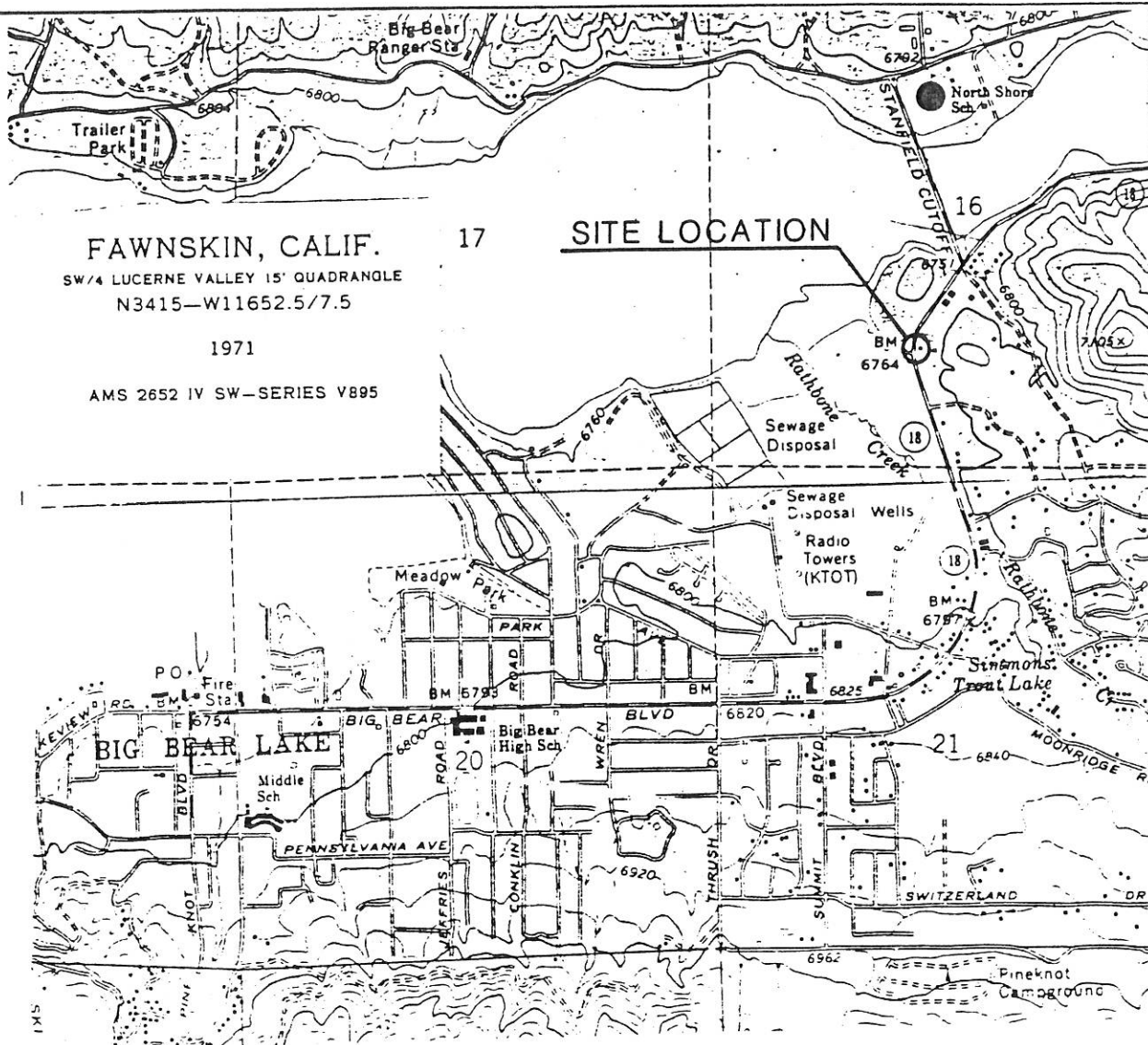
Permanent Trinomial: CA-SBr-1650/H / 12-76

mo. yr.

Temporary Number: _____

Agency Designation: _____

Page 4 of 5



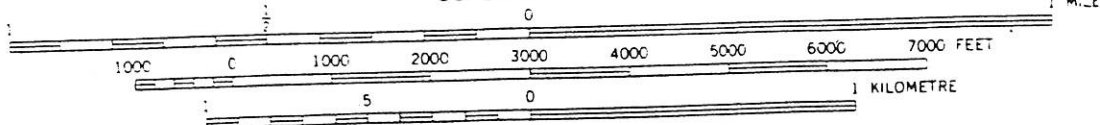
FAWSKIN, CALIF.

SW/4 LUCERNE VALLEY 15' QUADRANGLE
N3415-W11652.5/7.5

1971

AMS 2652 IV SW-SERIES V895

SCALE 1:24 000



CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

BIG BEAR LAKE, CALIF.

NW/4 SAN GORGONIO MTN. 15' QUADRANGLE
N3407.5-W11652.5/7.5

1970

AMS 2652 III NW-SERIES V895



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHEOLOGICAL SITE
MAP

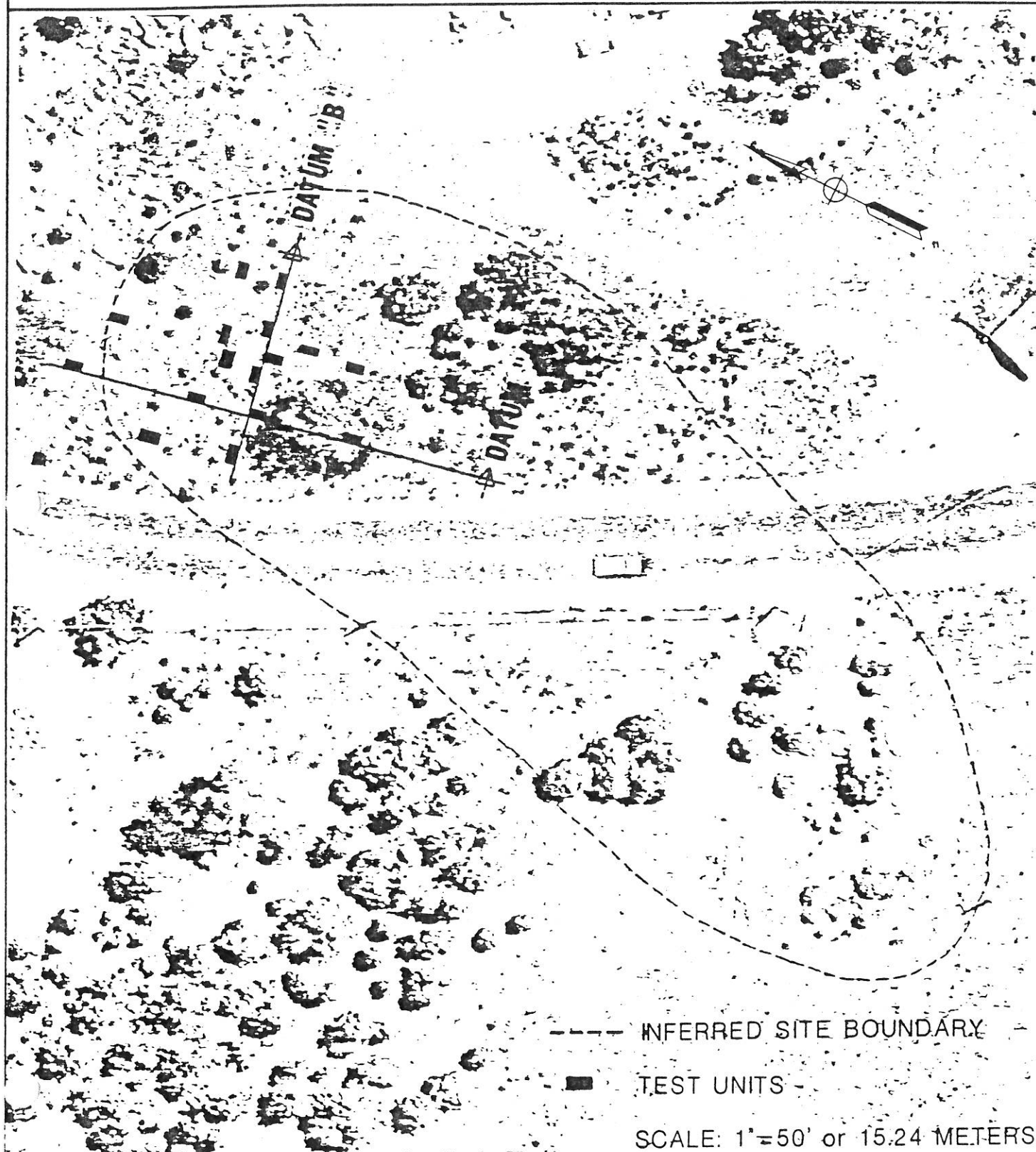
Permanent Triserial: CA-SBr-1650/H 12-76

mo. yr.

Temporary Number: _____

Agency Designation: _____

Page 5 of 5



SAN BERNARDINO COUNTY MUSEUM
Archaeological Site Survey Record

SB 1650/H

- Site SBCM - 44 2. Map Lucerne Valley 15 3. Country San Bernardino
4. Twp. 2N Range 1E SW 1/4 of NE 1/4 of Sec. 16
5. Location East side of road about 2 miles west of Big Bear City
6. On Contour elevation 6760
7. Previous designations for site Big Bear Valley
8. Owner — 9. Address —
10. Previous owners, dates —
11. Present tenant — 11/511000 E - 3790 550N
12. Attitude toward excavation —
13. Description of site Campsite
14. Area 100 X 50
15. Depth —
16. Height —
17. Vegetation Pine 18. Nearest water Lake
19. Soil of site Decomposed granite 20. Surrounding soil type same
21. Previous excavation —
22. Cultivation Some at site 23. Erosion —
24. Buildings, roads, etc. cabins at edge of site
25. Possibility of destruction road cut uncovered material
26. House pits —
27. Other features campsite near large granite outcroppings
28. Burials —
29. Artifacts millin stones, fire stones
30. Remarks —
31. Published references —
32. Other Museum Reference — 33. Sketch map no
34. Date 1939 35. Recorded by — 36. Photos no

SAN BERNARDINO COUNTY MUSEUM
Archaeological Site Survey Record

SBR-1650/H

1. Site SBCM - 44 2. Map Lucerne Valley 3. County San Bernardino
4. Twp. 2 N Range 1E SW 1/4 of NE 1/4 of Sec. 16
5. Location East side of road about 2 miles west of Big Bear City
6. On Contour elevation 6760
7. Previous designations for site Big Bear Valley
8. Owner _____ 9. Address _____
10. Previous owners, dates _____
11. Present tenant _____
12. Attitude toward excavation _____
13. Description of site Campsite
14. Area 100 x 50
15. Depth _____
16. Height _____
17. Vegetation Pine Coniferous Forest 18. Nearest water Lake
19. Soil of site Decomposed granite 20. Surrounding soil type Same
21. Previous excavation _____
22. Cultivation Some at site 23. Erosion _____
24. Buildings, roads, etc. Cabins at edge of site
25. Possibility of destruction Road cut uncovered metate
26. House pits _____
27. Other features Campsite near large granite outcroppings
28. Burials _____
29. Artifacts Milling stones, fire stores
30. Remarks _____
31. Published references _____
32. Other Museum Reference _____ 33. Sketch map _____
34. Date 1939 35. Recorded by G. Smith - R. Sayles 36. Photos _____

SAN BERNARDINO COUNTY MUSEUM

44

SBCM No.

Smithsonian No. SB R 1650

Site Name Big Bear Valley

County San Bernardino

USGS Quad Maps Lucerne Valley

15' 7 1/2

of 1E of SE of SE Section 16

Twp. 2N, Rng. 1E

Distance along bearing from

UTM grid numbers or lat. and long.

Site description, artifacts, etc. Camp site

Recorded by G. Smith - R. Sayles Date 1937 1939

Address Informant

Remarks

68

44 - Big Bear

- A.R.

1 Name Date
Metate

1938

Big Bear Valley

No. 44

South side of the lake, found metates,
manos. Mr. Sayles 1939 Baldwin 1938

Nature Magazine January----1938

Ant...

metates
Big Bear Valley
South side of lake
1938

1938

Big Bear Valley

No. 44

San Bernardino Mountains

South side of the lake, found metates, manos,

at Big Bear archaeological finds

Excavations, Bald Eagle nesting areas are endangered by development plans

By ROBERT LEE
Staff Writer

For the people working in various excavations around the eastern edge of Big Bear Lake, it will be a sad day when their survey of this archaeology site is completed because the site will be lost to developers.

Members of the Archaeological Survey Association of Southern California (ASA), headquartered in La Verne, are conducting this "dig" to determine the extent of archaeological deposits on the site as part of the developer's environmental impact report.

Dee Simpson, curator of archaeology at the San Bernardino County Museum, said the ASA was invited by the developer to survey the site before construction begins on the condominiums.

In addition to covering over the site, construction will endanger a nesting site for Bald Eagles, said Miss Simpson. So far the excavations have not uncovered any finds that could stop building.

Working in a shallow trench about the size of a grave, Ben McCown recently excavated an area with a small trowel.

Unlike other sciences which utilize expensive and sophisticated equipment, the tools of the archaeologist consist of shovels, trowels, sifters and even dental instruments.

McCown said amateur archaeology is a tradition in his family. He and his wife, Lucille, still have arrowheads collected by their grandparent when they were small children in the Ohio Valley.

As McCown piled the dirt from his excavation into a sifter, his wife and Don Laylander of San Diego scoured over it looking for flakes of quartzite which might have come from fashioning an ancient tool.

Mrs. McCown can't explain how she tells the difference between a flake made by man and one caused by nature, but she rarely lets anything of significance get by her.

As the excavations move further away from the lake's edge the artifacts begin to thin out. Miss Simpson believes the site is actually the edge of a larger deposit

which is now lost under the lake's surface.

Miss Simpson said earlier excavations had produced projectile points from the Serrano Indians. The Serrano, which means mountain people, inhabited the region between 2,000 and 3,000 years ago and came to the area in search of game and piñon nuts from the pine trees.

Deciding where to dig is an art in itself for the amateur archaeologists. According to McCown, the area was selected because it offered ready access to water, game and piñon nuts for the Indians.

The area is first inspected to see if there are surface deposits which might indicate more artifacts are buried. The group also looked for darkened soil caused by decaying plant and animal matter.

McCown said, "Archaeology is the science of going over someone else's garbage."

In addition to the Big Bear site the ASA is also excavating a site at Baldwin Lake which Miss Simpson said may be a former trading site for various Indian tribes.

Miss Simpson prefers to keep the exact location of the sites a secret since many of the excavations have been destroyed by "pottery hunters" searching for artifacts in a helter-skelter fashion.

At another of the trenches which borders a lakeside pasture, Jack Maddock, the group's comedian explained the fine art of trenching.

"Old archaeologists never die," teased Maddock. "They just throw in the trowel."

Maddock, a horticulturalist from Orange County, considered the current "dig" an emergency since the site will be destroyed. He said it is unlikely the group will be able to stop construction, adding that if they could find an Indian burial site, groups could probably stop the builders. But such a find is too remote to even be considered, he added.

The ASA will be digging at the Big Bear site for two more weekends, in addition to working on other sites. Persons interested in joining the "dig" may contact Dee Simpson at the San Bernardino County Museum 792-1334.

Simpson believes the site is actually the edge of a larger deposit

the San Bernardino County Museum 792-1334.



BIG BEAR "DIG"

Ben McCown demonstrates the use of a line level for measuring the depth of an archeological excavation. McCown is a member of the Archeological Survey Association of Southern California, which is currently conducting a "dig" at the eastern edge of Big Bear Lake on a site slated for condominiums.

PB photo by Robert Lee

Big Bear Valley

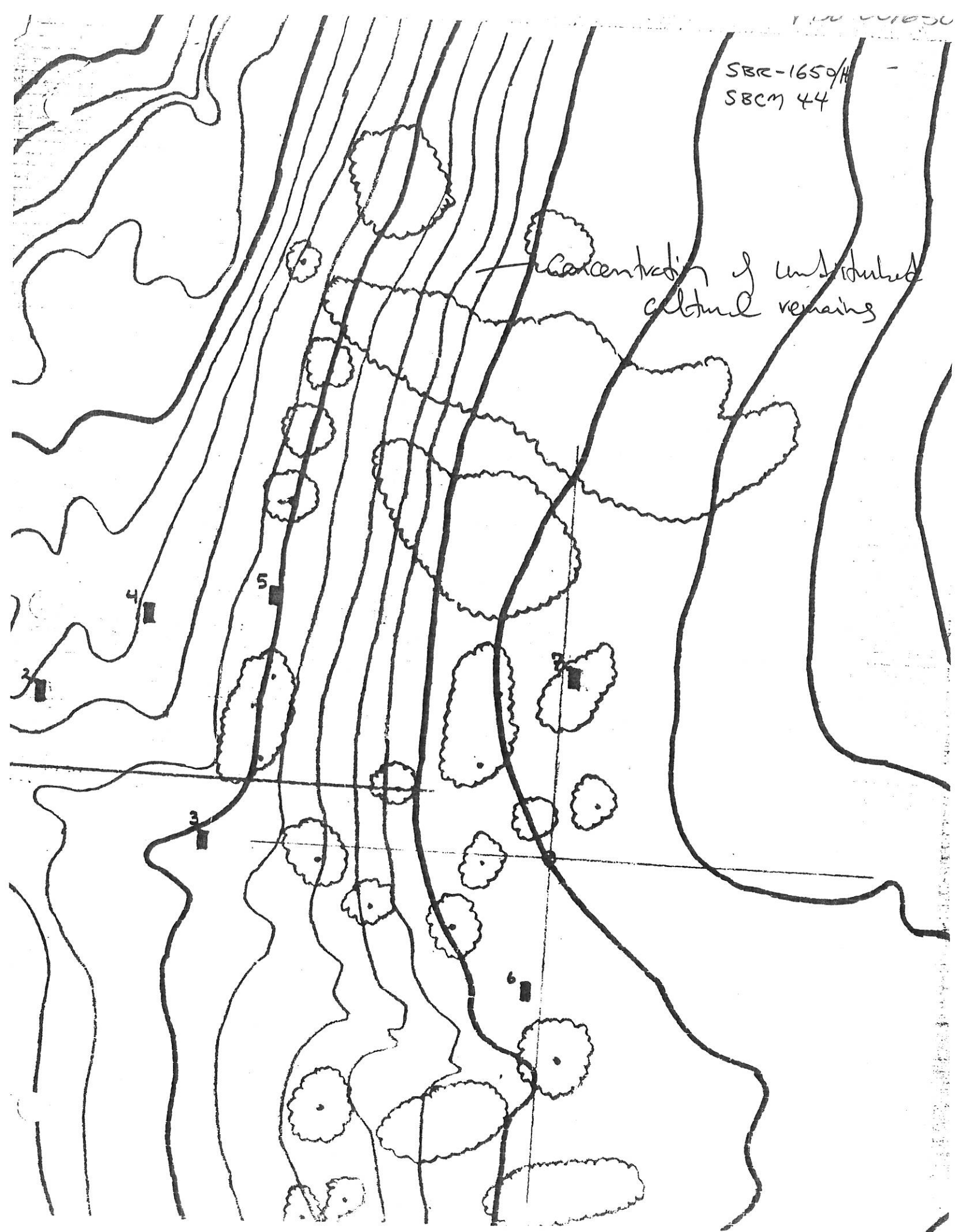
Broken metates, etc. Two graves
and hidden metate used by Jesusa Manuel
Pinones, lower end of lake.

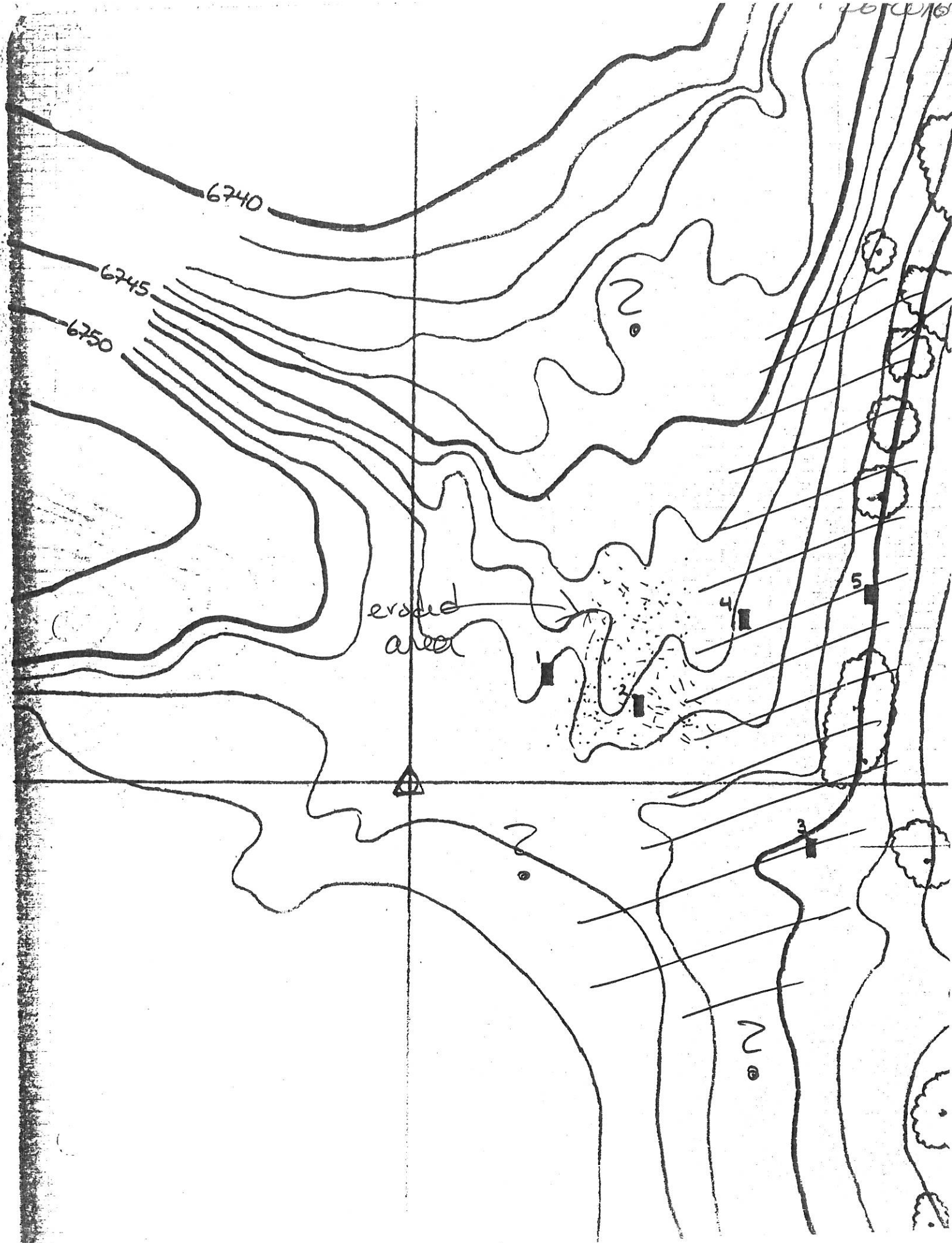
GERALD A. SMITH
Supervisor of Schools

SOUTHERN CALIFORNIA															
SURVEY OF SOUTHERN CALIFORNIA															
QUAD															
COUNTY															
LAT.															
LONG.															
ALT.															
SECTION T R B&M															
SITE SB-44															
TYPE: artifact area ¹ house ² burial ³ cremation ⁴ shell midden ⁵ midden ⁶ workshop ⁷ fire ⁸ mourning cer. ⁹ effigy ¹⁰ trail ¹¹															
maze ¹² bedrock mortars ¹³ do. metates ¹⁴ pictographs ¹⁵ petroglyphs ¹⁶ village site ¹⁷ quarry ¹⁸ other ¹⁹															
Area of site: Deep deposit ¹ shallow ² surf. only ³ overburden? ⁴															
Water source: spring ¹ stream ² lake ³ tank ⁴ lagoon ⁵ Location:															
Location of site: beach ¹ terrace ² bluff ³ shore ⁴ mesa ⁵ cave ⁶ rock shelter ⁷ dune ⁸ alluv. fan ⁹															
Access to site: Dist. from road:															
Condition: wind eroded ¹ water eroded ² cultivated ³ overgrown ⁴ construction ⁵ pitted ⁶															
Owner: gov't ¹ private ² Permission:															
Artifacts: pottery ¹ bone ² shell ³ asphaltum ⁴ pigment ⁵ vegetal ⁶ European ⁷ food remains ⁸ other ⁹															
Chipped Stone: points ¹ knives ² scrapers ³ drills ⁴ ornaments ⁵ other ⁶ ground? ⁷ polished? ⁸															
Pecked: metates ¹ manos ² mortars ³ pestles ⁴ bowls ⁵ other ⁶ Photos ¹⁰ Report ¹¹															
Loc. of coll: LA ¹ . SB ² . SD ³ . SW ⁴ . KH ⁵ . AV ⁶ . SH ⁷ . PS ⁸ . other ⁹															
Date: Recorded by: Excavation?															
Big Bear Valley															
SITE SB-44															
TYPE: artifact area ¹ house ² burial ³ cremation ⁴ shell midden ⁵ midden ⁶ workshop ⁷ fire ⁸ mourning cer. ⁹ effigy ¹⁰ trail ¹¹															
maze ¹² bedrock mortars ¹³ do. metates ¹⁴ pictographs ¹⁵ petroglyphs ¹⁶ village site ¹⁷ quarry ¹⁸ other ¹⁹															
Area of site: Deep deposit ¹ shallow ² surf. only ³ overburden? ⁴															
Water source: spring ¹ stream ² lake ³ tank ⁴ lagoon ⁵ Location:															
Location of site: beach ¹ terrace ² bluff ³ shore ⁴ mesa ⁵ cave ⁶ rock shelter ⁷ dune ⁸ alluv. fan ⁹															
Access to site: Dist. from road:															
Condition: wind eroded ¹ water eroded ² cultivated ³ overgrown ⁴ construction ⁵ pitted ⁶															
Owner: gov't ¹ private ² Permission:															
Artifacts: pottery ¹ bone ² shell ³ asphaltum ⁴ pigment ⁵ vegetal ⁶ European ⁷ food remains ⁸ other ⁹															
Chipped Stone: points ¹ knives ² scrapers ³ drills ⁴ ornaments ⁵ other ⁶ ground? ⁷ polished? ⁸															
Pecked: metates ¹ manos ² mortars ³ pestles ⁴ bowls ⁵ other ⁶ Photos ¹⁰ Report ¹¹															
Loc. of coll: LA ¹ . SB ² . SD ³ . SW ⁴ . KH ⁵ . AV ⁶ . SH ⁷ . PS ⁸ . other ⁹															
Date: Recorded by: Excavation?															

SBR-1650/H
SBCM 44

Concentration of undisturbed
cultural remains

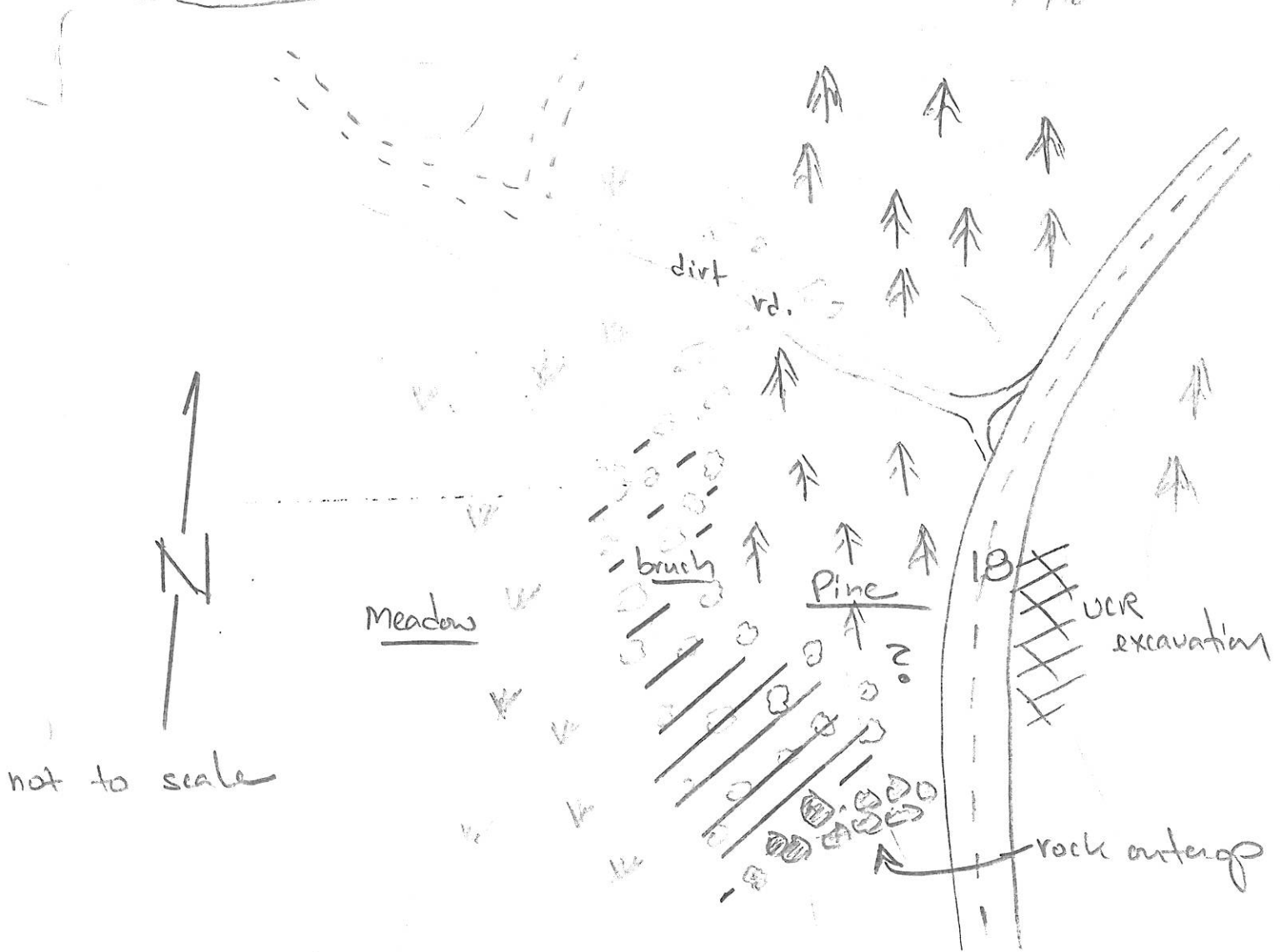




LAKE

30K-100-11
P36-001650

6/21/78



N. Leonard and J. Leonard spent approx. 1 hr. walking over area west of 18 and south of dirt access rd. Thirty-five to forty flakes were observed (materials present: jasper, chalcedony, quartzite, and obsidian). The majority of the flakes were very small (many would pass through $\frac{1}{4}$ " mesh screen). No tools observed. The greatest concentration of material 4 flakes over an area 2m Sq. . Average interval of observing 1 flake every 10 meters walked for area indicated as site (≡≡≡). A few flakes (≡≡) observed to north of main area. Main area located north of rock outcrop in brush area - extension of site to east of road.

probably same ~~deep~~ depth to site 20-30 cm.
Dark soil in vicinity of rock outcrop - difficult
to say if this is cultural. Material probably
very similar to that found by UCR on
east side of rd.

N.N. Lemke

6/21/78

P.S.

Site area about 150x100'

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Z

Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 5 *Resource Name or # (Assigned by recorder) CRM TECH 3614-1H

P1. Other Identifier: 42175 Big Bear Boulevard

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County San Bernardino

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Fawnskin, Calif. Date 1996

T2N; R1E; SE 1/4 of NE 1/4 of SW 1/4 of Sec 16 ; S.B. B.M.

c. Address 42175 Big Bear Boulevard City Big Bear Lake Zip 92315

d. UTM: (Give more than one for large and/or linear resources) Zone 11 ; 510,664 mE/ 3,790,338 mN
UTM Derivation: ☐ USGS Quad ☐ GIS ☒ Google Earth

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
The site is located on APN 0311-405-01, on the east side of Big Bear Boulevard, and northeast of the intersection with Sandalwood Drive.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) This irregularly shaped single-family residence of wood-frame construction faces Big Bear Boulevard (State Route 18) to the west and consists of a one-and-a-half-story main mass and single-story extensions at the northwestern, northeastern, and southeastern corners. The main mass is surmounted by a high-pitched cross-gable roof with medium-width eave and rake overhangs trimmed with fascia and verge boards, while the extensions have low-pitched shed roofs with wide overhangs. The complex roof form features pairs of gabled dormers on the western side and the southern side, along with a shed-roofed dormer at the rear. The entire roof covering is of gray
(Continued on p. 4)

*P3b. Resource Attributes: (List attributes and codes) HP2: Single family property

*P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo (view, date, accession number): Photo taken on May 15, 2020; view to the northeast

*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both
Ca. 1932 (altered)

*P7. Owner and Address: Jacque P. and Debra K. Montero, P.O. Box 1925, Big Bear Lake, CA 92315

*P8. Recorded by (Name, affiliation, & address): Terri Jacquemain and Daniel Ballester, CRM TECH, 1016 East Cooley Drive, Suite A/B, Colton, CA 92324

*P9. Date Recorded: May 15, 2020

*P10. Survey Type (describe): Intensive-level survey for CEQA-compliance purposes

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Bai "Tom" Tang, Terri Jacquemain, and Daniel Ballester (2020): Historical/Archaeological Resources Survey Report: Grocery Outlet Project, 42175 Big Bear Boulevard, Assessor's Parcel Nos. 0311-395-01, 0311-395-02, and 0311-405-01, City of Big Bear Lake, San Bernardino County, California

*Attachments: ☐ None ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Resource Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List): _____

BUILDING, STRUCTURE, AND OBJECT RECORD

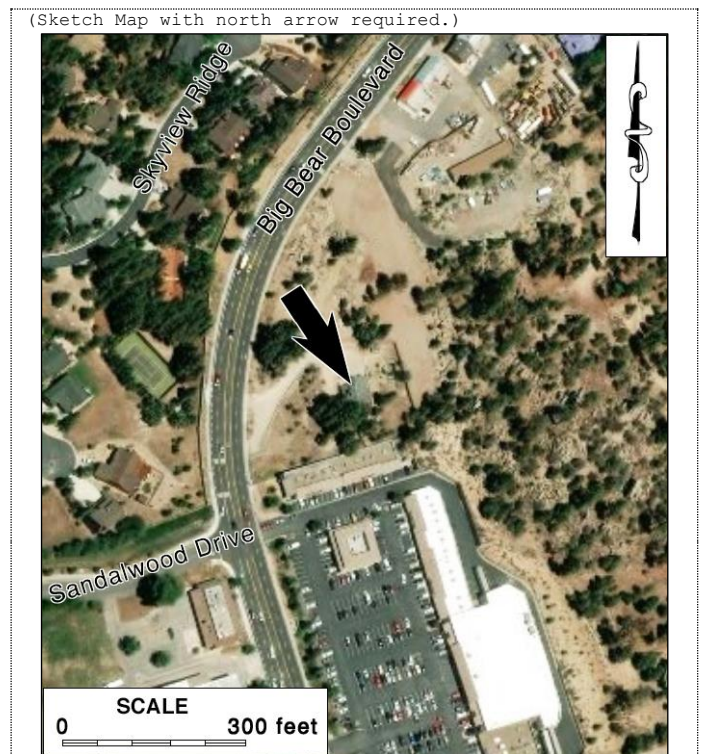
Page 2 of 5

*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) CRM TECH 3614-1H

- B1. Historic Name: _____ B2. Common Name: _____
B3. Original Use: Residence B4. Present Use: Residence
*B5. Architectural Style: Vernacular farmhouse
*B6. Construction History: (Construction date, alterations, and date of alterations) Archival records indicate that improvement occurred on the property as early as 1932, and aerial photographs from 1938 confirm the presence of a building at this location. It was accompanied by some five smaller buildings at the time, but by 1969 the other buildings had all been removed. The Bear Valley Mutual Water Company was identified as the property owner until 1945, when the portion of the land containing the residence was deeded to Charles W. (1882- (Continued on p. 4)
*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: See Item P3a.
B9a. Architect: Unknown b. Builder: Unknown
*B10. Significance: Theme Mid-20th century residential development
Area Big Bear Lake Period of Significance 1930-1945
Property Type Single-family residence Applicable Criteria N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) This residence dates to the early days of the development boom in what is now the City of Big Bear Lake, but the historical background research has not identified any specific events of recognized significance in close association with the building, nor does the building demonstrate a unique, remarkable, or particularly close association with the growth of the community as a historic theme. During the historic period, the residence was (Continued on p. 5)
B11. Additional Resource Attributes: (List attributes and codes) HP4: Ancillary building (shed)
*B12. References: San Bernardino County Assessor's real property tax assessment records and real property information database; interview with Jacque P. Montero, property owner; genealogical databases at ancestry.com; aerial photographs taken in 1938-2018, available at historicaerials.com and through the Google Earth software
B13. Remarks: _____
*B14. Evaluator: Terri Jacquemain
*Date of Evaluation: May 2020

(This space reserved for official comments.)



LOCATION MAP

Primary # _____

HRI # _____

Trinomial _____

Page 3 of 5

*Resource Name or # (Assigned by recorder) CRM TECH 3614-1H

*Map Name: Fawnskin, Big Bear City, Big Bear Lake, and Moonridge, Calif.

*Scale: 1:24,000

*Date of Map: 1996



CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 4 of 5

Resource name or # (Assigned by recorder) CRM TECH 3614-1H

Recorded by: Terri Jacquemain and Daniel Ballester

*Date: May 15, 2020

☒ Continuation ☐ Update

*P3a. **Description (continued):** composition shingles. A rectangular fieldstone chimney in the front and two steel pipe chimneys in the rear also protrude from the roofline.

Most of the house rests on raised fieldstone footings, while a lean-to at the northeastern corner, apparently a later addition, is built on a concrete slab foundation. The exterior walls of the house are mostly clad with wood-shingles that are painted dark brown, in sharp contrast to the white trim, except the addition in the rear that sports plain wood panels. A stone-lined patio at the northwestern corner, surrounded by low stone walls and accessed via three stone steps, and a wooden deck in the rear, surrounded by wooden lattice railings and accessed via five wooden steps, complete the footprint of the building.

Fenestration to the house demonstrates a wide variety of vintages, materials, and styles, but nearly all windows sport flat wood trim. Pairs of tall, wood-framed, single-pane casement windows on the primary façade flank similar-looking French doors at the main entrance, while large picture windows at either end and double-hung windows on the upper level comprise the rest of fenestration on this façade. A similar picture window in an interior wall dividing the lean-to extension at the northwestern corner from the rest of the house and a bank of wood-framed double-hung windows that is partially obscured by the northernmost wing indicate that those portions of the building were also later additions. The other façades are similarly fenestrated with double-hung, fixed, casement, and sliding windows of different materials, some with divided paned and many arranged in pairs or ribbon.

Other entrances to the house include a plain wood door and a metal-framed sliding door opening to the patio in the front and a single French door opening to the deck at the rear. The house sits well back from Big Bear Boulevard, on the edge of a pine wood, and adjacent to neighborhood shopping center to the south. It is partially hidden from the public right-of-way by mature trees and shrubbery and is reached from Big Bear Boulevard via an unpaved driveway. A rock-lined koi pond, now empty and dry, and a small wooden shed accompany the house to its rear, both of which are evidently modern in origin. Wooden fences with decorative lattice topping enclose parts of the perimeter of the property and a small yard behind the house, which is generally in good condition and is currently occupied by tenants.

*B6. **Construction History (continued):** 1952) and Lucy G. Alvord. Charles Alvord, a Michigan-born carpenter who worked as a building contractor, had moved to the Pine Knot area sometime between 1933 and 1940.

Soon after, the Alvords deeded the property to Lawrence O. (1887-1956) and Edith S. Brownell, who lived in Los Angeles throughout their tenure as the owners and may have leased the property to a fox farmer. In 1956, Bernard E. Godwin (1913-1995) and his wife Margueritte E. Godwin (nee Lawrence; 1915-2011), who had settled in the Big Bear Lake area from Minnesota in 1941-1945, acquired the property with the intent of operating a fox farm. Bernard Godwin, a medical doctor, subsequently became the namesake of "Godwin's Curve," a notoriously sharp bend on the segment of Big Bear Boulevard adjacent to the property at the time, and was often the first to arrive and attend to crash victims of the dangerous road hazard.

In 1965, the residence was acquired by Donald R. and Evelyn M. Walker, who had in 1963 operated A & W Janitorial Services in La Mirada. They remained owners until 1989, while the Godwins retained the northernmost

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____

HRI # _____

Trinomial _____

Page 5 of 5

Resource name or # (Assigned by recorder) CRM TECH 3614-1H

Recorded by: Terri Jacquemain and Daniel Ballester

*Date: May 15, 2020

☒ Continuation ☐ Update

***B6. Construction History (continued):** portion of the property until 1981. Archival records indicate that the deck and the shed were added around 1973. The koi pond was built in 2002-2003 by the immediately previous owners, Douglas C. and Gail F. Mason.

***B10. Significance (continued):** owned and, in some cases, occupied by Charles and Lucy Alvord, Lawrence and Edith Brownell, Bernard and Margueritte Godwin, and Donald and Evelyn Walker, and none of them is known to have attained the level of historic significance required by the California Register criteria. Furthermore, in light of the extent of alterations that it has received in recent decades, the residence no longer retains sufficient historic integrity to relate to any persons or events in its early history, or to the historic period in general.

In terms of architectural or aesthetic merits, the residence does not represent an important example of any architectural style, property type, period, region, and method of construction, nor is it known to embody the work of a prominent architect, designer, or builder. Additionally, the residence holds little promise for important historical or archaeological data for the study of the early growth of the Big Bear Lake area, a subject that is well documented in existing literature. Based on these considerations, the residence does not appear to meet any of the criteria for listing in the National Register of Historic Places or the California Register of Historical Resources.

Additional Photographs:



Rear view of the residence (to the southwest, left) and the modern shed (view to the north, right)

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 7R

Other Listings _____
Review Code _____ Reviewer _____ Date _____

Page 1 of 6 *Resource Name or # (Assigned by recorder) CRM TECH 3614-2

- P1. Other Identifier: _____
*P2. Location: ☒ Not for Publication ☐ Unrestricted *a. County San Bernardino
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad Fawnskin, Calif. Date 1996
T2N; R1E; SE 1/4 NE 1/4 of SW 1/4 of Sec 16 ; S.B. B.M.
Elevation: Approximately 6,795 feet above mean sea level
c. Address 42175 Big Bear Boulevard City Big Bear Lake Zip 92315
d. UTM: (Give more than one for large and/or linear resources) Zone 11 ; 510,668 mE/ 3,790,326 mN
UTM Derivation: USGS Quad ☒ GPS (NAD 83)
e. Other Locational Data: (e.g., parcel #, directions to resource, etc., as appropriate) The site is located on APN 0311-405-01, next to a residence on the east side of Big Bear Boulevard, approximately 300 feet northeast of the intersection of Big Bear Boulevard and Sandalwood Drive.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries): The site consists of two bedrock milling features in a cluster of granitic outcrops and a complete metate. Feature 1 measures approximately 3.0x1.8x0.8 meters and has a total of 3 milling slicks on it. Feature 2 measures approximately 2.8x1.5x1.3 meters and contains a mortar and a modified depression. The granitic bifacial metate is approximately 37x36x26 centimeters in size and was found with the bottom side up next to a large boulder. Dark soil, possibly midden, was observed around the base of some of the boulders.

*P3b. Resource Attributes: (List attributes and codes) AP4: Bedrock milling feature

*P4. Resources Present: ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Isolate
Other _____

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Photo taken on May 15, 2020; view to the southeast

*P6. Date Constructed/Age of Sources: Historic ☒ Prehistoric ☐ Both

*P7. Owner and Address: Jacque P. and Debra K. Montero, P.O. Box 1925, Big Bear Lake, CA 92315

*P8. Recorded by: (Name, affiliation, and address) Daniel Ballester, CRM TECH, 1016 East Cooley Drive, Suite A/B, Colton, CA 92324

*P9. Date Recorded: May 15, 2020

*P10. Survey Type (describe): Intensive-level survey for CEQA-compliance purposes

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Bai "Tom" Tang, Terri Jacquemain, and Daniel Ballester (2020): Historical/Archaeological Resources Survey Report: Grocery Outlet Project, 42175 Big Bear Boulevard, Assessor's Parcel Nos. 0311-395-01, 0311-395-02, and 0311-405-01, City of Big Bear Lake, San Bernardino County, California

*Attachments: ☐ None ☒ Location Map ☒ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☒ Archaeological Record ☐ District Record ☐ Linear Resource Record ☒ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List): _____

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
ARCHAEOLOGICAL SITE RECORD

Primary #

Trinomial

Page 2 of 6

*Resource Name or # (Assigned by recorder) CRM TECH 3614-2

- A1. Dimensions:** a. Length 16 meters (E-W) b. Width 7 meters (N-S)
Method of Measurement: Paced ☒ Taped ☐ Visual estimate ☒ Other: GPS
Method of Determination (Check any that apply.): ☒ Artifacts ☒ Features ☐ Soil ☐ Vegetation
☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):
Reliability of Determination: ☐ High ☒ Medium ☐ Low Explain:
Limitations (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined
☐ Disturbances ☐ Vegetation ☐ Other (Explain):
- A2. Depth:** None ☒ Unknown Method of Determination:
- *A3. Human Remains:** Present ☒ Absent ☐ Possible ☐ Unknown (Explain):
- *A4. Features:** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.) Feature 1 is approximately 3.0x1.8x0.8 meters in size and has a total of three milling slicks on it. Slick 1 measures 20x20 centimeters, Slick 2 measures 50x30 centimeters, and Slick 3 measures 20x20 centimeters. Feature 2 is approximately 2.8x1.5x1.3 meters in size and contains a mortar and a modified depression. The mortar measures 17x15x2 centimeters and the modified depression measures 30x15x2 centimeters.
- *A5. Cultural Constituents:** (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.) The complete granitic bifacial metate is approximately 37x36x26 centimeters in size.
- *A6. Were Specimens Collected?** ☒ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)
- *A7. Site Condition:** ☐ Good ☒ Fair ☐ Poor (Describe disturbances.):
- *A8. Nearest Water** (Type, distance, and direction.): The original course of Bear Creek, now at the bottom of the Big Bear Lake reservoir, runs approximately 1/3 mile to the north.
- *A9. Elevation:** Approximately 6,795 feet above mean sea level
- A10. Environmental Setting:** (Describe vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): The vegetation in the site area includes foxtails, pine trees, and various small grasses and shrubs. Portions of the ground are covered with duff. The soil consists of fine- to coarse-grained sands mixed with gravels from decomposing granite. Large granitic boulders occur frequently in the surrounding area.
- A11. Historical Information:**
- *A12. Age:** ☒ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945
☐ Post 1945 ☐ Undetermined Describe position in regional prehistoric chronology or factual historic dates if known:
- A13. Interpretations:** (Discuss scientific, interpretive, ethnic, and other values of site, if known) The surface remains recorded at this site are very common at Native American sites in Big Bear Valley and throughout southern California, but the mortar is a less common feature than the ubiquitous grinding slicks and suggests long-term and repeated use. The dark soil observed at the base of some of the boulders may indicate the presence of additional artifacts of unknown quality and quality in subsurface deposits at or near this location.
- A14. Remarks:** The significance of the site cannot be ascertained without further archaeological investigations due to the possibility of subsurface cultural remains. An archaeological testing and evaluation program is recommended at the site to ascertain the depth and horizontal extent of the subsurface deposits.
- A15. References:** (Documents, informants, maps, and other references.): See Item P11 on p. 1.
- A16. Photographs:** (List subjects, direction of view, and accession numbers or attach a Photograph Record.):
Original Media/Negatives Kept at: CRM TECH, Colton, California
- *A17. Form Prepared by:** Daniel Ballester **Date:** May 19, 2020
Affiliation and Address: CRM TECH, 1016 East Cooley Drive, Suite A/B, Colton, CA 92324



State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
FEATURE DRAWING

Primary # _____

HRI # _____

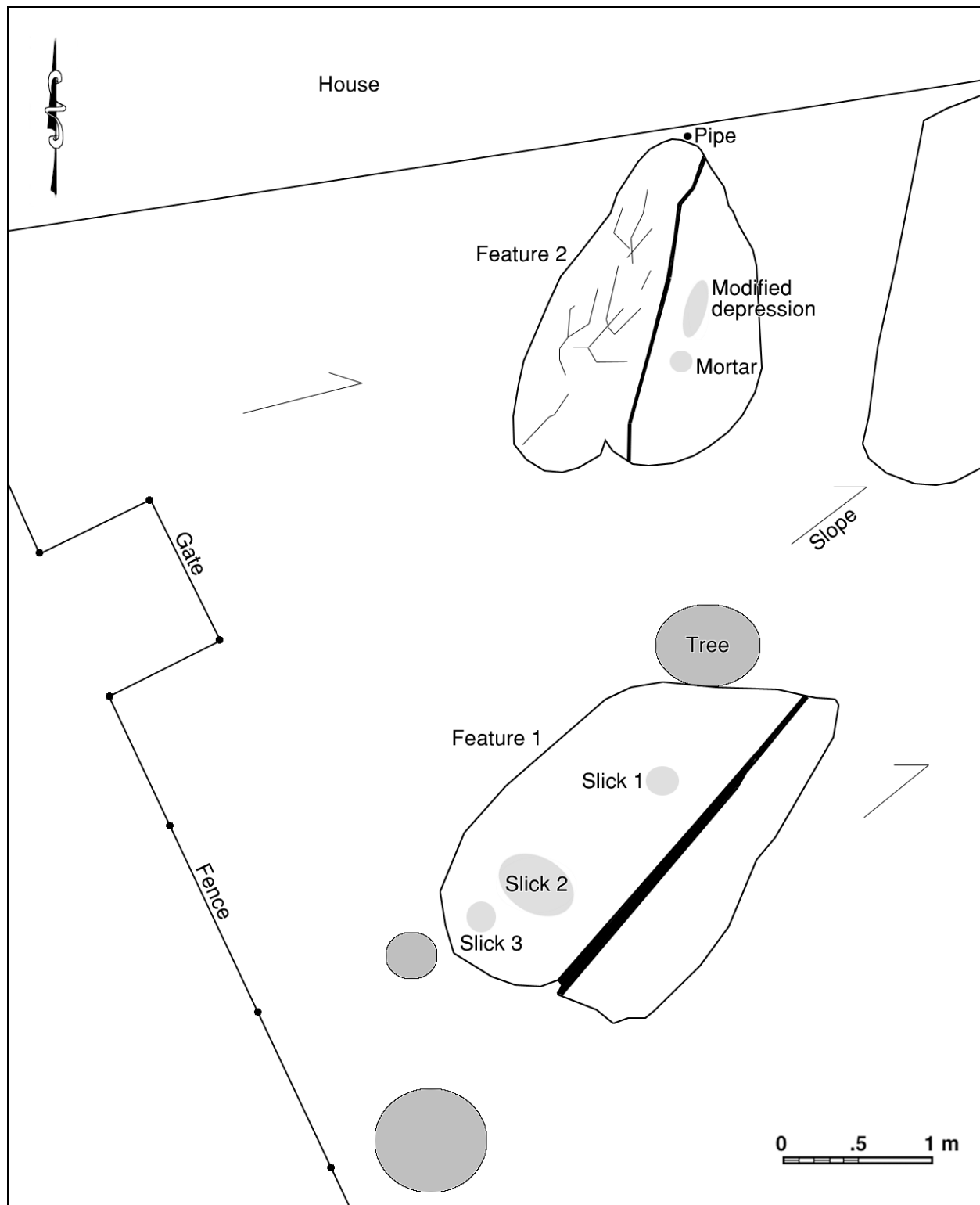
Trinomial _____

Page 5 of 6

*Resource Name or # (Assigned by recorder) CRM TECH 3614-2

*Drawn by: Daniel Ballester

*Date: May 19, 2020



State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
MILLING STATION RECORD

Primary # _____
HRI # _____
Trinomial _____

Page 6 of 6

*Resource Name or # (Assigned by recorder) CRM TECH 3614-2

Form Prepared by: Daniel Ballester

Date: May 19, 2020

Feature	Outcrop Dimensions (m) and Orientation				Bedrock Type and Condition	
1	3.0 (NE-SW)	x	1.8 (SE-NW)	x Height	0.8 m	Granite; good condition
2	2.8 (N-S)	x	1.5 (E-W)	x Height	1.3 m	Granite; good condition
		x		x Height		
		x		x Height		
		x		x Height		
		x		x Height		
		x		x Height		
		x		x Height		
		x		x Height		
		x		x Height		

Feature #	Milling Surface #	Type	Length (cm)	Width (cm)	Depth (cm)	Contents	Remarks
1	S1	MS	20	20	0		High polished
1	S2	MS	50	30	0		High polished
1	S3	MS	20	20	0		High polished
2	M1	OM	17	15	2		High points polished
2	DP1	Other	30	15	2		High points polished

Type Key:			Contents Key:		
CO Conical mortar	PM Possible Mortar		S Filled with soil	R Contains rock	
OM Oval mortar	MS Milling slick		L Filled with leaves	P Contains pestle	
SM Saucer mortar	BM Basin milling feature		U Unexcavated	M Contains mano	
Other:			Other:		

APPENDIX D

**GEOTECHNICAL ENGINEERING
INVESTIGATION REPORT**

The Dirt Guys
PO Box 5218
Bakersfield, CA 93388

www.dirtguys.org
Email: karl@dirnguys.org
Office: 661-209-3160

DRAFT

Geotechnical Engineering Investigation Report
Proposed Commercial Building
42175 Big Bear Boulevard, Big Bear Lake, California
APNs 0311-395-01-0000, 395-02-0000, 405-01-0000

June 1, 2020
Project #: 2020-032

The Dirt Guys
PO Box 5218
Bakersfield, CA 93388

www.dirtguys.org
Email: karl@dirnguys.org
Office: 661-209-3160

DRAFT

Date: June 1, 2020

To: Mr. Dan Dover

Re: Geotechnical Engineering Investigation Report - Proposed Commercial Building

42175 Big Bear Boulevard, Big Bear Lake, California

APNs 0311-395-01-0000, 395-02-0000, 405-01-0000

Project #: 2020-032

Dear Mr. Dover,

In accordance with your request, we have completed our Geotechnical Engineering Investigation at the Subject Site. The Investigation was performed pursuant to our Proposal # 2020-032. The subject site is suitable to support the proposed development, provided the recommendations contained in this report are incorporated into the project plans and specifications.

The enclosed report contains the scope of our investigation, a description of the subsurface earth materials, a summary of our field and laboratory testing program, results of engineering analyses, and recommendations for structural design of the proposed improvements.

We appreciate the opportunity to provide assistance with your project. If you have any questions, please don't hesitate to call.

Respectfully Submitted,

The Dirt Guys

Karl Schwartz, P.E. C78281

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Table 6: Recommended Shallow Foundation Design Criteria

Table 7: Recommended End Bearing Pile Foundation Design Criteria

Table 8: Recommended Static Lateral Earth Pressures for Footings

Figures

Figure 1: Percolation Test Results at a depth of 4.5 feet, 30 minute tests per Section VII.3.8.1 of Appendix D (VII)

Figure 2: CBC Figure 1808.7.1 Foundation Clearances from Slopes

Appendices

Appendix A Field Investigation

Vicinity Map

Boring Location Map

Boring Logs

Percolation Test Results

Appendix B Laboratory Tests

R-Value Test Report

Corrosion Analysis Tests

Expansion Index Test

1. INTRODUCTION

This preliminary geotechnical report presents data and conclusions in support of a building permit application for a new commercial building at the subject site. This report was prepared in accordance with our Estimate # 2020-032. The site is located on 42175 Big Bear Boulevard in the City of Big Bear Lake in San Bernardino County, California. This report provides a description of the geotechnical conditions at the site and provides specific recommendations for earthwork and foundation design with respect to the planned facility. In the event that changes occur in the design of the project, this report's conclusions and recommendations will not be considered valid unless the changes are reviewed by the author of this report and the conclusions and recommendations are modified or verified in writing. Examples of such changes would include location, size of structures, foundation loads, etc.

2. PLANNED CONSTRUCTION

The planned construction consists of a new commercial building supported by either concrete shallow foundations or end bearing pile foundations with connecting grade beams, a new parking lot consisting of a flexible pavement section, associated concrete slabs and drainage swales, and stormwater/snow retention basins. The structural loads are expected to be relatively light for the building. Loads are not expected to exceed 4 kips per foot for continuous foundations and 40 kips for isolated pad footings or end bearing piles. The proposed stormwater/snow basins will be located near the southwest and northeast corners of the property.

3. PURPOSE AND SCOPE

The purpose of this investigation is to provide geotechnical design criteria for the proposed improvements. The scope of our investigation included field exploration, laboratory testing, engineering analyses, and preparation of this report. The basis of this investigation is the 2019 California Building Code (CBC), Chapter 18, Soils and Foundations, and Chapter 16, Structural Design, and the San Bernardino County Technical Guidance Document for Water Quality Management Plans, Appendix D (VII), Infiltration Rate Evaluation Protocol and Factor of Safety Recommendations, Orange County TGD Appendices, May 19, 2011.

4. FIELD INVESTIGATION

The field exploration for this investigation was conducted by the undersigned Civil Engineer on March 30 and 31, 2020 using a mini-excavator and on May 8, 2020 using a backhoe. The borings were drilled to a maximum depth of 7 feet below the existing ground surface (BGS). The soil materials encountered in the test borings were visually classified in the field, and the logs were recorded during the drilling and sampling operations. Visual classification of the materials encountered in the test borings was made in

general accordance with the Unified Soil Classification System (ASTM D 2488). Boring logs are presented in Appendix A and should be consulted for more details concerning subsurface conditions. Stratification lines were approximated by the Engineer based on observations made at the time of drilling, while the actual boundaries between soil types may be gradual and soil conditions may vary at other locations.

5. PENETRATION TESTING

The in place consistency of the soil at was determined using a Dynamic Cone Penetrometer and Test Method ASTM D-6951. The Dynamic Cone Penetrometer consists of a standard weight of 15 pounds dropped from a height of 22 inches, driving a 1.5 inch hardened steel cone into the soil. The blows are counted and the penetration distance is measured using a tape measure. The Dynamic Penetration Resistance is reported in blows per inch and is shown on the attached Boring Logs. Qualitative consistency descriptions of the soil, such as loose, stiff, medium dense, etc., were made by the undersigned Civil Engineer based on the DCP results.

Table 1: Dynamic Penetration Resistance		
<i>Calculated Value (blows per inch)</i>	<i>Sands</i>	<i>Silts/Clays</i>
<2	Very Loose	Very Soft
2-5	Loose	Soft
5-10	Medium Dense	Medium Stiff
10-30	Dense	Stiff
>30	Very Dense	Very Stiff

6. PERCOLATION TESTING

Percolation tests were performed in the vicinity of the proposed snow/stormwater basins to evaluate the area for drainage capacity. Percolation tests were performed in accordance with Section VII.3.8.1 of Appendix D (VII) of the "Infiltration Rate Evaluation Protocol and Factor of Safety Recommendations". Three areas were evaluated for percolation rates. At each location, twelve (12) percolation tests were performed at 30 minute intervals. The bottom depth of the test holes was 4.5 feet. The dimensions of the holes were 9 inches square and 25 inches deep. A 2-inch bed of gravel was placed at the bottom of the test hole to prevent scour. The holes were then presaturated for 24 hours. Water column height measurements were obtained using Global Water© and Seametrics© components. A Seametrics PT Water Level Sensor is connected to a GL500-21 Data Logger through an EZ100 LCD display. The sensor data (time and water level height) are stored in the data logger at specific time intervals. Following the pre-saturation period, the percolation tests were performed. During the Percolation Test, the height of

a column of water was observed over 30-minute for a period of at least 6 hours. The percolation rates, in terms of inches per hour, are recorded on the attached Percolation Test Data Sheets. The percolation test results are also presented graphically in Figure 1 Below.

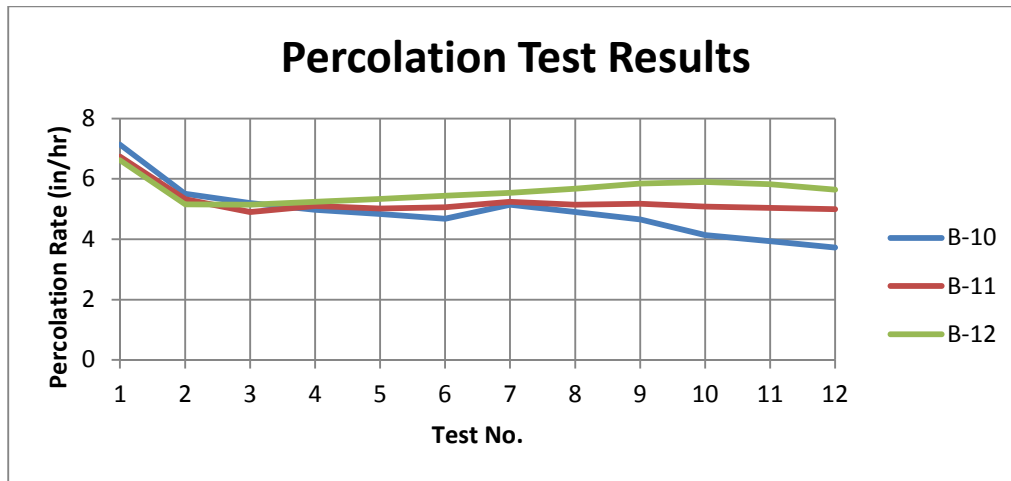


Figure 1: Percolation Test Results at a depth of 4.5 feet, 30 minute tests per Section VII.3.8.1 of Appendix D (VII)

Final percolation rates were 3.7, 5.0, and 5.6 inches per hour for Borings B-10, B-11, and B-12, respectively. The project civil engineer should select the appropriate percolation rate for designing the basins.

7. LABORATORY TESTING

The laboratory testing for this investigation included moisture content determinations, fines content (percent passing the #200 sieve), and particle size analysis. These results are shown on the Boring Logs in Appendix A. Expansion Index, R-Value, and Corrosion Analysis tests were also performed, the results of which are attached to this report in Appendix B. Laboratory tests were performed according to the following ASTM Test Methods.

Table 2: Laboratory Test Methods	
Laboratory Test	Standard Method
Moisture Content	ASTM D-2216
Fines Content	ASTM D-1140
Particle Size Analysis	ASTM D-422
Expansion Index	ASTM D-4829
R-Value	California Test 301
Chloride/Sulfate Content	EPA 300
pH	EPA 9040

8. SUBSURFACE CONDITIONS

Record of Soil Profile

The soil profile is generalized based on our limited number of test borings and is interpreted accordingly. Soil and rock conditions vary substantially over the project site. Generally, the site is characterized artificial fill, natural soil with various thickness and depth, underlain by granitic bedrock. Artificial fills were present in Borings B-2 through B-4, and B-6 through B-12. Natural soil was present in all borings except Borings B-5 and B-13 which exposed bedrock at the ground surface. The Table 3 below provides general descriptions the materials encountered in each boring.

Table 3: General Descriptions of Materials Encountered				
Boring	Purpose	Total Depth	Depth to Bedrock	Soils Encountered
B-1	Building Pad	3.5 feet	Encountered at 3 feet	Clayey Sand
B-2	Building Pad	4 feet	Encountered at 2.5 feet	Silty Gravel with Sand/Clayey Sand/Sandy Lean Clay
B-3	Building Pad	6 feet	Encountered at 5 feet	Silty Sand/Silty Gravel with Sand
B-4	Building Pad	7 feet	Not Encountered	Sandy Lean Clay/Silty Sand with Gravel
B-4A	Building Pad	8 feet	Not Encountered	Silty Sand with Gravel/Sandy Silt/Silty Sand with Gravel with abundant trash, wire, wood, asphalt, buckets, pipes, fence wire (looks like a landfill)
B-5	Building Pad	1 foot	Encountered at Ground Surface	None
B-6	Parking Lot	6 feet	Not Encountered	Silty Gravel with Sand/Silty Sand with Gravel/silty Sand/Sandy Lean Clay
B-7	Parking Lot	1 foot	Not Encountered	Silty Sand with Gravel
B-7A	Parking Lot	4.5 feet	Not Encountered	Silty Sand/Clayey Sand
B-8	Parking Lot	1 feet	Not Encountered	Silty Sand with Gravel
B-9	Parking Lot	5 feet	Not Encountered	Chunks of old bricks, concrete, asphalt, and wood/Silty Sand with Gravel/Silty Sand
B-10	Infiltration Basin	4 feet	Not Encountered	Clayey Sand/Sandy Lean Clay
B-11	Infiltration Basin	4 feet	Not Encountered	Aggregate Base/Clayey Gravel with Sand/Silty Sand with Gravel
B-12	Infiltration Basin	4 feet	Not Encountered	Silty Sand with Gravel/Clayey Sand with Gravel/Silty Sand with Gravel
B-13	Parking Lot	0.5 feet	Encountered at Ground Surface	None

Elevation of Water Table

Groundwater was not encountered in our exploration borings. Based on our observations of the subsurface conditions in this area, groundwater is not likely to affect the site development. The potential for seasonal groundwater has not been analyzed and the possibility that seasonal fluctuation in groundwater levels may occur cannot be completely eliminated.

Expansive Soils

One Expansion Index Test was performed on a representative sample of the site soils with a result of $EI=4$. A majority of the soils encountered around the proposed building consist of silty sand with gravel. Some of the site soils consist of sandy clay and clayey sand and likely have a higher expansion potential. Based on the variability of the soils conditions, it is expected that most of these clayey soils will be mixed with the silty and gravelly soils during site grading. Expansion index tests should be performed on compacted fill after completion of grading to verify that the expansion index is less than 20.

Soil Corrosivity

The site soils were tested by BC Laboratories for soluble sulfates, chlorides, and pH. The sulfate content of the sample was 52 parts per million, chloride content was 41 parts per million, and pH was 7.94. Soils with sulfates contents of less than 1,000 parts per million are considered to be not corrosive to normally formulated concrete mixtures. Therefore, Type II cement may be used in concrete mixtures. The site soils are considered to be moderately corrosive to buried steel. Any buried steel conduits or structures should have protective coatings in accordance with the manufacturer's recommendations for moderately corrosive soils.

Excavation Characteristics

The artificial fill and native soils can be readily excavated with conventional earthwork equipment. The granitic bedrock will be difficult to excavate and will likely require jackhammers or a hydraulic breaker attached to an excavator. Excavations deeper than 4 feet in soil should cut back at a 1.5:1 (horizontal:vertical) slope. Excavations in bedrock may be vertical up to a depth of 10 feet.

9. RECOMMENDATIONS

Seismic Design Criteria

Based on observations of the soil and rock conditions from our test borings and in accordance with Table 20.3-1 of ASCE 7-16, the site can be classified as Site Class C (soft rock profile). Use of the 2019

California Building Code (CBC) seismic design criteria is considered appropriate and the following parameters should be considered applicable for the structural design of structural improvements:

Table 4: Seismic Design Parameters			
<i>Seismic Design Parameter</i>	<i>Value</i>		<i>Reference</i>
MCE Mapped Spectral Acceleration (g)	SS = 1.640	S1 = 0.567	USGS Mapped Value
Site Coefficients	Fa = 1.2	Fv = 1.433	CBC Table 1613.2.3
Site Adjusted MCE Spectral Acceleration (g)	SMS = 1.968	SM1 = 0.812	CBC Equations 16-36, 37
Design Spectral Acceleration (g)	SDS = 1.312	SD1 = 0.542	CBC Equations 16-38, 39
Mapped MCE Geometric Mean Peak Ground Acceleration, PGA (g)	PGA = 0.69		ASCE 7-16 Figure 22-7
Site Amplification Factor	FPGA = 1.2		ASCE 7-16 Table 11.8-1
Design Peak Ground Acceleration (g)	PGAM = 0.828		PGAM = FPGA x PGA
Seismic Design Category	D		CBC Table 1613.2.5

Geologic Hazards

The site is not located in a State of California Liquefaction Hazard Zone. The building foundations will either be supported by bedrock or by compacted fill supported by bedrock. As such, the potential for liquefaction due to earthquake loads is negligible. The site is not located in a State of California Landslide Hazard Zone and the ground slope is relative flat. As such, the potential for landslides due to earthquake loads is negligible.

Site Preparation Recommendations for Continuous Footings on Compacted Fill

Where new continuous foundations are proposed to be supported on compacted fill, the existing fill and loose native soil under the foundations and slabs should be over-excavated and removed to expose bedrock, expected to be found at depths of between 2.5 and 10 feet below existing site grades. Additional over-excavation of the bedrock will be necessary where it is relatively shallow to minimize differential settlement. Where shallow foundations will be supported by compacted fill in areas of relatively shallow bedrock, the bedrock should be excavated to a depth of at least 3 feet below the footing bottoms. Where bedrock is relatively deep, the removals of fills and native soils to the bedrock depth is recommended. Deeper excavations may be necessary depending on our observations during grading.

The over-excavation should extend laterally in all directions at least five feet outside the perimeter of the wall footings. Localized areas may require additional over-excavation and removal at the discretion

of the engineer. Following the required over-excavation, the excavation bottom should be proof-rolled with heavy equipment to create a firm and unyielding surface. The excavation bottom should be approved in writing by The Dirt Guys prior to placement of compacted fill.

Where existing foundation, utilities, inlets, or underground tanks are present, they should be removed to a point at least five feet horizontally outside the proposed foundation areas. Resultant cavities must be backfilled with Compacted Engineered Fill compacted in accordance with the recommendations presented in this report.

Site Preparation Recommendations for Isolated Pad Footings on Bedrock

Where new foundations are proposed to be supported on bedrock, the upper 3 feet of soil below the slabs should be over-excavated and removed. The excavated soils may be placed as compacted fill as specified in the "Compacted Fill" section of this report.

Site Preparation Recommendations for Pavements

Where new pavements are proposed, the pavement subgrade should be over-excavated to a depth where firm native soil or bedrock exists. Excavations for pavement sections are not expected to exceed 5 feet in depth. Existing artificial fill and loose native soil under the pavements should be placed as compacted fill as specified in the "Compacted Fill" section of this report.

Compacted Fill

Material Properties

Native soils may be used as Compacted Engineered Fill as long as the soils have been cleaned of any organic debris and particles larger than 6 inches. Any proposed import soil must be classified as sandy soil (SM, SC, SW, SP-SM, or SP-SC) based on ASTM D-2487. Import soil is subject to approval by the engineer before placement. Samples of proposed import material must be received by The Dirt Guys at least three days prior to the proposed import date.

Compacted Fill in must be placed in uniform layers not exceeding 8 inches in loose thickness, moisture conditioned to near optimum moisture content, and compacted to at least 90 percent relative compaction, based on ASTM D-1557. Pavement area subgrades should be compacted to at least 95 percent based on ASTM D-1557.

Compacted Engineered Fill must be tested at a minimum frequency of 1 test per every foot of engineered fill placed, every 500 cubic yards, or more frequently as directed by The Dirt Guys during grading activities.

Controlled Low Strength Material

Controlled Low Strength Material (CLSM) may be used as an alternative to compacted fill. CLSM should conform to the requirements of the California Building Code Section 1803.5.9.

Design for Asphalt Concrete Pavements

One R-value test was performed on a representative sample of the subgrade soil for design of flexible pavements with a result of 45. Using a Design Subgrade R-value of 45, the following flexible pavement sections are recommended for various traffic indices:

Table 5A: Design Parameters for Asphalt Concrete Pavements			
<i>Traffic Index</i>	<i>Asphalt Concrete Thickness (inches)</i>	<i>Class II Aggregate Base Thickness (inches)</i>	<i>Compacted Subgrade (inches)</i>
		<i>R-Value > 78</i>	<i>R-Value = 45</i>
4	2	3	12
5	3	4	12
6	3.5	5	12
7	4	6	12
8	5	7	12
9	5	8.5	12

Class II Aggregate Base should have a minimum R-value of 78, and should be placed at a minimum of 95 percent relative compaction based on ASTM D-1557. Compacted Subgrade should be placed at 95 percent relative compaction. Testing frequency shall be determined by applicable San Bernardino County or Cal-Trans agency standards, the undersigned engineer's opinion, or the owner's choice, whichever is more stringent, but shall not be less than one test per every 250 cubic yards of material placed.

Design for Portland Cement Concrete (PCC) Pavements

We recommend the following sections for Portland Cement Concrete (PCC) pavements:

Table 5B: Design Parameters for Portland Cement Concrete Pavements		
<i>Traffic Index</i>	<i>Concrete Thickness (inches)</i>	<i>Compacted Subgrade (inches)</i>
4	6	12
5	6.5	12
6	7	12
7	7.5	12

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Compacted Subgrade should be placed at 95 percent relative compaction. Testing frequency shall be determined by applicable San Bernardino County agency standards, the undersigned engineer's opinion, or the owner's choice, whichever is more stringent, but shall not be less than one test per every 250 cubic yards of material placed.

Retention Basin Design

Retention basins should be designed by the project civil engineer. Infiltration rates for three areas tested were discussed above. A factor of safety of 2 should be used for design.

Shallow Foundations

Shallow Foundation Type

Concrete continuous footings or isolated pad footings may be used for support of the proposed structure. All continuous foundations should be supported by at least three feet of compacted fill supported by approved bedrock. Compacted fill should be compacted to at least 90 percent of its maximum dry density as determined by ASTM D-1557. Table 6 below gives minimum depths and widths for continuous and isolated shallow foundations supported on compacted fill.

<i>Table 6: Recommended Shallow Foundation Design Criteria</i>		
Recommended Foundation Type	<i>Continuous Footings</i>	<i>Isolated Pad Footings</i>
Minimum Width	24 inches	36 inches square
Minimum Depth	24 inches	24 inches

An allowable bearing pressure of 2,000 pounds per square foot may be used for footings supported by at least three feet of compacted fill. The bearing capacities given may be increased by one third for resistance to transient (wind or seismic) loads.

Shallow Foundation Settlement

Total settlements for continuous foundations bearing on compacted fill are not expected exceed 1 inch and differential settlements are expected to be less than 1/2 inch over a span of 100 feet (L/2400).

Pile Foundations

Pile Foundation Type

End bearing pile foundations connected by structural grade beams may be used for support of the proposed structure. All end bearing pile foundations should be embedded at least three feet into bedrock. Table 7 below gives minimum dimensions for pile foundations supported on bedrock. Bedrock contacts are expected to be found at depths ranging from 2.5 to 10 feet below existing grades.

<i>Table 7: Recommended End Bearing Pile Foundation Design Criteria</i>	
Recommended Foundation Type	<i>End Bearing Piles</i>

Minimum Diameter	30 inches
Minimum Depth	3 feet into bedrock

An allowable bearing pressure of 4,000 pounds per square foot may be used for pile foundations supported by and embedded at least 3 feet into bedrock. The bearing capacities given may be increased by one third for resistance to transient (wind or seismic) loads.

End Bearing Pile Foundation Settlement

Total settlements for end bearing pile foundations bearing at least 3 feet into bedrock are not expected exceed 1/2 inch and differential settlements are expected to be less than 1/4 inch over a span of 100 feet (L/4800).

Lateral Earth Pressures and Frictional Resistance

Provided the Site is prepared as recommended above, the following earth pressure parameters for footings may be used for design purposes. The parameters shown in Table 7 below are for drained conditions of select engineered fill, undisturbed native soil, or bedrock.

<i>Table 8: Recommended Static Lateral Earth Pressures for Footings</i>		
<i>Lateral Pressure Condition</i>	<i>Equivalent Fluid Density (pcf) Drained Condition</i>	
Material	Compacted Fill/Native Soil	Bedrock
Active Pressure	45	20
At Rest Pressure	60	25
Passive Pressure	150	400
Coefficient of Friction	0.25	0.35

The active and at-rest lateral earth pressures listed herein are obtained by Table 1610A.1 of the 2019 CBC. The coefficient of friction and passive earth pressure values given above represent allowable soil strength values as obtained from Table 1806.2 of the CBC. We recommend that a safety factor consistent with the design conditions be included in their usage in accordance with Sections 1806.3.1 through 1806.3.3 of the 2019 CBC. For stability against lateral sliding that is resisted solely by the passive earth pressure against footings or friction along the bottom of footings, a minimum safety factor of 1.5 is recommended. For stability against lateral sliding that is resisted by combined passive pressure and frictional resistance, a minimum safety factor of 2.0 is recommended. For lateral stability against seismic loading conditions, a minimum safety factor of 1.2 is recommended.

Retaining Walls

Retaining walls up to 6 feet high may be designed using the active or at-rest pressures described above. Walls higher than 6 feet will require additional analysis. Retaining wall foundations may be designed using the bearing pressures given above for either compacted fill or bedrock. Retaining walls should

have a backdrain consisting of a perforated PVC pipe, encased in 1/2 cubic foot per lineal foot of clean crushed drainage gravel, and wrapped in geotextile.

The placement of buildings and structures on or adjacent to slopes steeper than one unit vertical in three units horizontal (33.3-percent slope) shall comply with Sections 1808.7.1 through 1808.7.5 of the CBC, as summarized below.

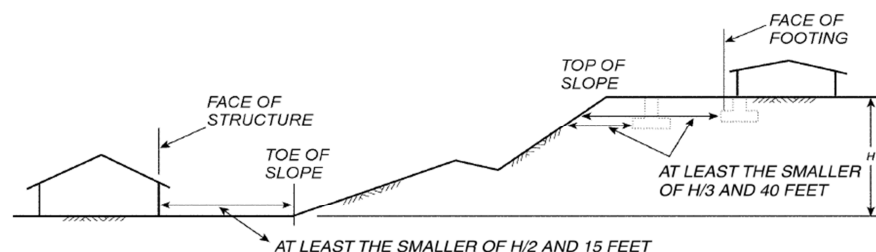
Foundation Clearances from Slopes

Ascending Slopes

In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided in Section 1808.7.5 and Figure 1808.7.1 of the CBC, the following criteria will be assumed to provide this protection. Where the existing slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees (0.79 rad) to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

Descending Slopes

Foundations on or adjacent to slope surfaces shall be founded in firm material with an embedment and set back from the slope surface sufficient to provide vertical and lateral support for the foundation without detrimental settlement. Except as provided for in Section 1808.7.5 and Figure 1808.7.1 of the CBC, the following setback is deemed adequate to meet the criteria. Where the slope is steeper than 1 unit vertical in 1 unit horizontal (100-percent slope), the required setback shall be measured from an imaginary plane 45 degree (0.79 rad) to the horizontal, projected upward from the toe of the slope.



**FIGURE 1808.7.1
FOUNDATION CLEARANCES FROM SLOPES**

Figure 2: CBC Figure 1808.7.1 Foundation Clearances from Slopes

Drainage Considerations

The control surface drainage in the project areas is an important design consideration. We recommend that final grading around the structure should provide for positive and enduring drainage away from the structures, and ponding of water must not be allowed around, or near the shallow foundations. Ground surface profiles next to the shallow foundations must have a minimum 2 percent gradient away from the structures.

Slabs on Grade

Slabs on grade should be designed by the project structural engineer. All concrete floor slabs and exterior flat work should be supported by at least three feet of compacted fill, compacted to at least 90 percent of the maximum dry density as determined by ASTM D-1557. Where moisture protection is desired, the floor slabs should be underlain by a 6 mil polyethylene sheet covered by at least 2 inches of clean washed sand.

10. PLANS AND SPECIFICATIONS REVIEW

The Dirt Guys must be retained to review the draft plans and specifications for the project, with regard to foundations and earthwork, prior to their being finalized and issued for construction bidding.

11. CONSTRUCTION TESTING AND OBSERVATION

Geotechnical testing and observation during construction is a vital extension of this geotechnical investigation. Field review during site preparation and grading allows for evaluation of the exposed soil conditions and confirmation or revision of the assumptions and extrapolations made in formulating the design parameters and recommendations. The observations described in this report must be supplemented with periodic compaction tests to establish substantial conformance with these recommendations. The Dirt Guys must also be called to the site to observe the bottom of the over-excavation to verify that compacted fill will be placed on a suitable subgrade. If end bearing pile foundations are used, The Dirt Guys must be called to the site after excavation of the foundations to verify that the foundations will be supported by the recommended bedrock and that the minimum embedment depth into bedrock has been achieved.

12. LIMITATIONS

The analyses and recommendations submitted in this report are based upon the data obtained from the test borings performed at the locations shown on the Boring Location Map. The report does not reflect variations which may occur between or beyond the borings. The nature and extent of such variations

may not become evident until construction is initiated. If variations then appear, a re-evaluation of the recommendations of this report will be necessary after performing on-site observations during the excavation period and noting the characteristics of the variations.

The validity of the recommendations contained in this report is also dependent upon an adequate testing and observation program during the construction phase. The Dirt Guys assumes no responsibility for construction compliance with the design concepts or recommendations unless it has been retained to perform the testing and observation services during construction as described above.

The findings of this report are valid as of the present. However, changes in the conditions of the Site can occur with the passage of time, whether caused by natural processes or the work of man, on this property or adjacent property. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, governmental policy or the broadening of knowledge.

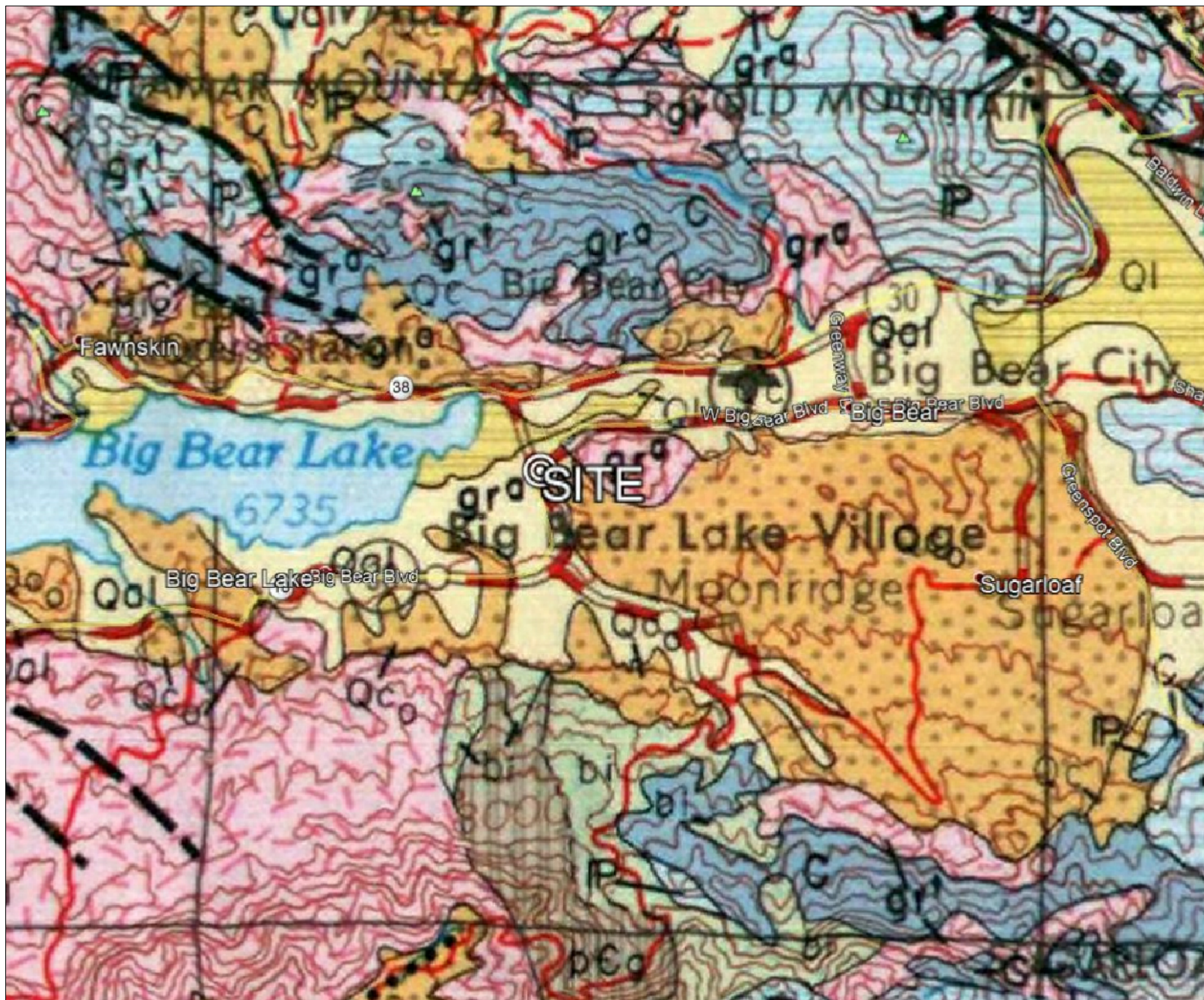
This report has been prepared for the exclusive use by the Client and members of the project design team. The report has been prepared in accordance with generally accepted geotechnical engineering practices which existed in California at the time the report was written. No other warranties either expressed or implied are made as to the professional advice provided under the terms of our agreement and included in this report. This report has been prepared in accordance with the minimum required reporting specified in the California Building Code, Chapter 18. If you have any questions, please don't hesitate to call.

Respectfully Submitted,

The Dirt Guys

Vicinity Map

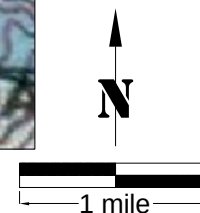
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Project Address: 42175 Big Bear Blvd
 Project APN: APN 0311-395-01-0000, 395-02-0000,
 405-01-0000

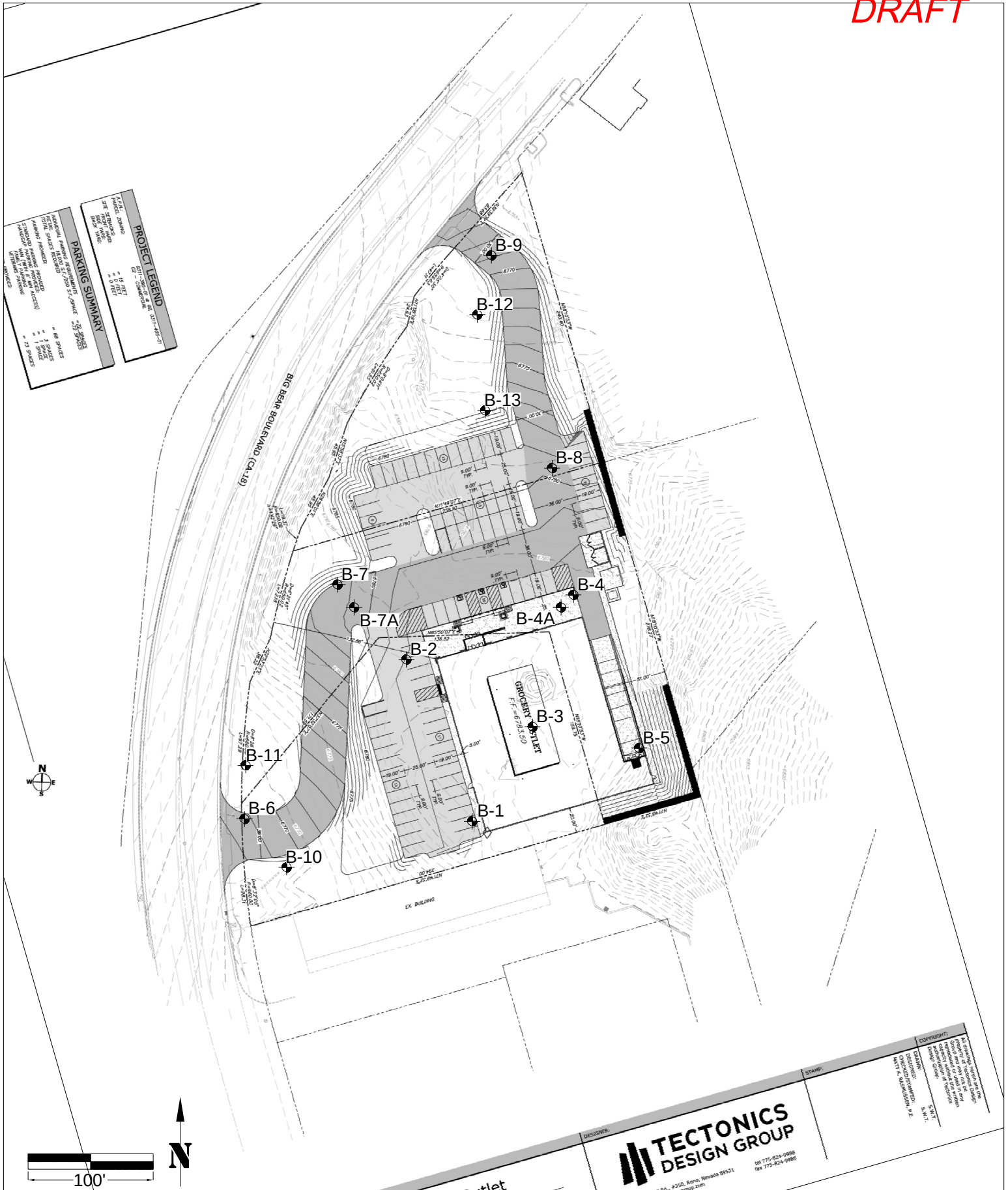
Project #: 2020-032
 Date: 6/1/2020

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 www.dirtguys.org
 661-209-3160



Boring Location Map

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Project Address: 42175 Big Bear Blvd

Project APN: APN 0311-395-01-0000, 395-02-0000, 405-01-0000

Project #: 2020-032

Report Date: 6/1/2020

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Bakersfield, CA 93388
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Boring Log B-1

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PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 3/30/2020
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COMMENTS	LOGGED BY KS CHECKED BY KS
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Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (w%)	Dry Density (pcf)
1		SC	Clayey Sand	Brownish Black	Fine to Medium Grained	Loose	3	39	17.2	
2				Yellowish Brown	Medium Grained	Dense	23	34	14.4	
3										
3			Bedrock			Dense	19			
4			Termination Depth at 3.5 ft. Groundwater not encountered.							
5										
6										
7										
8										
9										
10										



Boring Log B-2

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 3/30/2020
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COMMENTS	LOGGED BY KS CHECKED BY KS
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Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (w%)	Dry Density (pcf)
1		GM	Silty Gravel with Sand	Dark Grayish Yellow	Medium to Coarse Grained	Dense	13	18	5.3	
		GC	Clayey Gravel with Sand	Brown	Fine Grained		20	17	11.3	
		CL	Sandy Lean Clay	Dull Yellowish Brown		Stiff	17	53	13.1	
			Granitic Bedrock			Dense	25			
	Bright Yellowish Brown			Very Dense		30				
4			Termination Depth at 4 ft. Groundwater not encountered.							
5										
6										
7										
8										
9										
10										



Boring Log B-3

DRAFT

PROJECT NUMBER 2020-032							DRILLING DATE 3/30/2020			
ADDRESS 42175 Big Bear Blvd, Big Bear Lake										
DRILLING METHOD Backhoe										
APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000										
COMMENTS							LOGGED BY KS CHECKED BY KS			
Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)
1		SM	Silty Sand	Brownish Black	Fine Grained	Loose	3	41	21.0	
			Silty Sand with Gravel			Medium Dense				
2							6	24	17.4	
3										
4		GM	Silty Gravel with Sand			Loose	4	18	15.4	
5										
6			Granitic Bedrock	Bright Yellowish Brown		Dense	13			
7			Termination Depth at 6 ft. Groundwater not encountered.							
8										
9										
10										

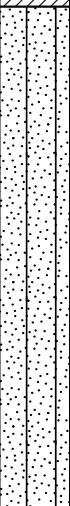


Boring Log B-4

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PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 3/30/2020
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COMMENTS	LOGGED BY KS CHECKED BY KS
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Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)
1		CL	Sandy Lean Clay	Brownish Black		Medium Stiff	6	68	14.7	
				Gray		Very Stiff				
2							33	63	37.7	
3		SM	Silty Sand with Gravel	Dark Brown	Fine Grained	Medium Dense				
4							8	36	12.0	
5										
6										
7							6	41	10.6	
8			Termination Depth at 7 ft. Groundwater not encountered.							
9										
10										



Boring Log B-4A

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 5/8/2020
--	-------------------------------

COMMENTS Boring exposed abundant trash, wire, wood, asphalt, buckets, pipes, fence wire (looks like a landfill)	LOGGED BY KS CHECKED BY KS
---	---

Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)
1		SM	Silty Sand with Gravel	Dark Brown	Fine Grained	Dense	10	31	7.8	
2		ML	Sandy Silt			Medium Stiff	9	68	16.8	
4		SM	Silty Sand with Gravel		Fine Grained	Loose	3	30	8.9	
6						Medium Dense	5	31	7.8	
8			Termination Depth at 8 ft. Groundwater not encountered.							
9										
10										



Boring Log B-5

DRAFT

PROJECT NUMBER 2020-032							DRILLING DATE 3/30/2020			
ADDRESS 42175 Big Bear Blvd, Big Bear Lake										
DRILLING METHOD Backhoe										
APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000										
COMMENTS							LOGGED BY KS			
							CHECKED BY KS			
Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%%)	Dry Density (pcf)
1			Granitic Bedrock	Bright Yellowish Brown						
2			Termination Depth at 1 ft. Groundwater not encountered.							
3										
4										
5										
6										
7										
8										
9										
10										



Boring Log B-6

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 3/30/2020 & 5/8/2020
--	---

COMMENTS	LOGGED BY KS CHECKED BY KS
-----------------	---

Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)
1		GM	Silty Gravel with Sand	Grayish Yellow Brown	Fine to Medium Grained	Dense	13	13	4.4	
2		SM	Silty Sand with Gravel	Dull Yellowish Brown				25	17	
3			Silty Sand		Fine Grained	Medium Dense				
4						5	31	8.5		
5			CL	Sandy Lean Clay		Stiff				
6			Termination Depth at 6 ft. Groundwater not encountered.				14	55	18.1	
7										
8										
9										
10										



Boring Log B-7

DRAFT

PROJECT NUMBER 2020-032	DRILLING DATE 3/30/2020
ADDRESS 42175 Big Bear Blvd, Big Bear Lake	
DRILLING METHOD Backhoe	
APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	

COMMENTS	LOGGED BY KS
	CHECKED BY KS

Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (w%)	Dry Density (pcf)
1		SM	Silty Sand with Gravel	Brownish Black	Fine Grained			27	12.2	
2			Termination Depth at 1 ft. Groundwater not encountered.							
3										
4										
5										
6										
7										
8										
9										
10										

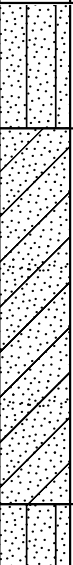


Boring Log B-7A

DRAFT

PROJECT NUMBER 2020-032	DRILLING DATE 5/8/2020
ADDRESS 42175 Big Bear Blvd, Big Bear Lake	
DRILLING METHOD Backhoe	
APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	

COMMENTS	LOGGED BY KS
	CHECKED BY KS

Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (w%)	Dry Density (pcf)
1		SM	Silty Sand	Dull Yellowish Brown	Fine Grained	Medium Dense	6	34	5.5	
2		SC	Clayey Sand			Dense	6	40	8.8	
3										
4		SM	Silty Sand with Gravel	Dull Yellow Orange	18	40	15.0			
							22	18	7.4	
5			Termination Depth at 4 ft 6 in. Groundwater not encountered.							
6										
7										
8										
9										
10										



Boring Log B-8

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 3/30/2020 & 5/8/2020
--	---

COMMENTS	LOGGED BY KS CHECKED BY KS
-----------------	---

Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)		
1		SM	Silty Sand with Gravel	Dark Brown	Fine Grained	Dense	25	30	11.1			
			Silty Sand			Medium Dense						
2						7	37	11.6				
3		CL	Sandy Lean Clay	Grayish Yellow Brown		Medium Stiff						
4											5	55
5		SM	Silty Sand with Gravel	Dark Brown	Fine Grained	Medium Dense						
6								10	36		12.0	
7									Dense			
8							12	21	11.3			
9			Termination Depth at 8 ft. Groundwater not encountered.									
10												



Boring Log B-9

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000	DRILLING DATE 3/30/2020 & 5/8/2020
--	---

COMMENTS	LOGGED BY KS CHECKED BY KS
-----------------	---

Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (w%)	Dry Density (pcf)
1		Rubble	Chunks of old bricks, concrete, asphalt, and wood	Brick: red, concrete: gray, asphalt: black	Chunks up to 8 inches	Medium Dense				
2										
3		SM	Silty Sand with Gravel	Dark Brown	Fine to Medium Grained					
4								19	8.7	
5			Silty Sand		Fine Grained		5	30	10.8	
6										
7					Fine to Medium Grained		7	27	12.4	
8										
9		SC	Clayey Sand	Brown			7	38	10.9	
10										
		SM	Silty Sand	Dark Brown		Dense	11	31	10.7	
			Termination Depth at 10 ft. Groundwater not encountered.							



Boring Log B-10

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000							DRILLING DATE 3/30/2020			
COMMENTS							LOGGED BY KS CHECKED BY KS			
Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)
1		SC	Clayey Sand	Dull Yellowish Brown	Fine Grained			39	20.8	
2				Brownish Black				42	18.8	
3				Dull Yellowish Brown				48	22.6	
4		CL	Sandy Lean Clay	Olive Brown				51	21.5	
5			Termination Depth at 4 ft. Groundwater not encountered.							
6										
7										
8										
9										
10										



Boring Log B-11

DRAFT

PROJECT NUMBER 2020-032							DRILLING DATE 3/30/2020							
ADDRESS 42175 Big Bear Blvd, Big Bear Lake														
DRILLING METHOD Backhoe														
APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000														
COMMENTS							LOGGED BY KS CHECKED BY KS							
Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)				
1		GM	Aggregate Base	Light Gray	Medium to Coarse Grained									
		GC	Clayey Gravel with Sand	Dark Brown	Fine Grained									
2		SM	Silty Sand with Gravel	Dull Yellowish Brown										
3														
4			Termination Depth at 4 ft. Groundwater not encountered.											
5														
6														
7														
8														
9														
10														



Boring Log B-12

DRAFT

PROJECT NUMBER 2020-032 ADDRESS 42175 Big Bear Blvd, Big Bear Lake DRILLING METHOD Backhoe APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000							DRILLING DATE 3/30/2020			
COMMENTS							LOGGED BY KS CHECKED BY KS			
Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (%)	Dry Density (pcf)
1		SM	Silty Sand with Gravel	Brownish Black	Fine Grained			24	9.6	
2		SC	Clayey Sand with Gravel	Dark Brown				25	12.8	
3		SM	Silty Sand with Gravel	Brownish Black				34	12.6	
4				Fine to Medium Grained	21			9.0		
5			Termination Depth at 4 ft. Groundwater not encountered.							
6										
7										
8										
9										
10										



Boring Log B-13

DRAFT

PROJECT NUMBER 2020-032							DRILLING DATE 3/30/2020			
ADDRESS 42175 Big Bear Blvd, Big Bear Lake										
DRILLING METHOD Backhoe										
APN 0311-395-01-0000, 0311-395-02-0000, 0311-405-01-0000										
COMMENTS							LOGGED BY KS			
							CHECKED BY KS			
Depth (ft)	Graphic Log	USCS	Material Description	Color	Grain Size	Consistency	Dynamic Cone Resistance (blows/in)	Fines Content (%)	Moisture (w%)	Dry Density (pcf)
			Granitic Bedrock	White						
1			Termination Depth at 0 ft. Groundwater not encountered.							
2										
3										
4										
5										
6										
7										
8										
9										
10										

Percolation Test Data Sheet

Project:	42175 Big Bear Blvd.	Project No:	2020-032	Date:	3/30/2020
Test Hole No:	B-10	Tested By:	Dirt Guys, Karl Schwartz		
Depth of Test Hole, D_T :	4.5 ft.	USCS Soil Classification:	SC/CL		
Test Hole Dimensions (inches)			Length	Width	
Diameter (if round)=		Sides (if rectangular)=	9	9	

Sandy Soil Criteria Tests*

Trial No.	StartTime	Stop Time	Time Interval, (min.)	Initial Depth of Water (in.)	Final Depth of Water (in.)	Change in Water Level (in.)	Greater than or Equal to 6"? (y/n)
1							
2							

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Other wise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	D_o Initial Depth of Water (in.)	D_f Final Depth of Water (in.)	ΔD Change in Water Level (in.)	Percolation Rate (in./hr.)
1	11:57:00	12:27:00	30	22.81	19.24	3.57	7.1
2	12:28:45	12:58:45	30	22.72	19.97	2.75	5.5
3	13:00:00	13:30:00	30	22.83	20.23	2.60	5.2
4	13:31:00	14:01:00	30	22.71	20.22	2.49	5.0
5	14:03:00	14:33:00	30	22.70	20.28	2.42	4.8
6	14:34:15	15:04:15	30	22.56	20.22	2.34	4.7
7	15:07:00	15:37:00	30	22.82	20.25	2.57	5.1
8	15:38:00	16:08:00	30	22.79	20.34	2.45	4.9
9	16:09:15	16:39:15	30	22.82	20.49	2.33	4.7
10	16:40:45	17:10:45	30	22.72	20.65	2.07	4.1
11	17:13:00	17:43:00	30	22.76	20.79	1.97	3.9
12	17:44:15	18:14:15	30	22.75	20.89	1.86	3.7
13							
14							
15							

COMMENTS:

Percolation Test Data Sheet

Project:	42175 Big Bear Blvd.	Project No:	2020-032	Date:	3/30/2020
Test Hole No:	B-11	Tested By:	Dirt Guys, Karl Schwartz		
Depth of Test Hole, D_T :	4.5 ft.	USCS Soil Classification:	GC/SM		
Test Hole Dimensions (inches)			Length	Width	
Diameter (if round)=		Sides (if rectangular)=	9	9	

Sandy Soil Criteria Tests*

Trial No.	StartTime	Stop Time	Time Interval, (min.)	Initial Depth of Water (in.)	Final Depth of Water (in.)	Change in Water Level (in.)	Greater than or Equal to 6"? (y/n)
1							
2							

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Other wise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	D_o Initial Depth of Water (in.)	D_f Final Depth of Water (in.)	ΔD Change in Water Level (in.)	Percolation Rate (in./hr.)
1	12:16:30	12:46:30	30	22.94	19.57	3.37	6.7
2	12:55:00	13:25:00	30	22.91	20.25	2.66	5.3
3	13:26:30	13:56:30	30	22.89	20.44	2.45	4.9
4	13:58:00	14:28:00	30	22.95	20.40	2.55	5.1
5	14:29:45	14:59:45	30	22.90	20.39	2.51	5.0
6	15:01:30	15:31:30	30	22.99	20.46	2.53	5.1
7	15:33:45	16:03:45	30	23.03	20.41	2.62	5.2
8	16:04:45	16:34:45	30	23.01	20.44	2.57	5.1
9	16:36:00	17:06:00	30	22.93	20.34	2.59	5.2
10	17:07:15	17:37:15	30	23.04	20.50	2.54	5.1
11	17:39:00	18:09:00	30	23.02	20.50	2.52	5.0
12	18:10:15	18:40:15	30	22.91	20.41	2.50	5.0
13							
14							
15							

COMMENTS:

Percolation Test Data Sheet

Project:	42175 Big Bear Blvd.	Project No:	2020-032	Date:	3/30/2020
Test Hole No:	B-12	Tested By:	Dirt Guys, Karl Schwartz		
Depth of Test Hole, D_T :	4.5 ft.	USCS Soil Classification:	SM/SC/SM		
Test Hole Dimensions (inches)			Length	Width	
Diameter (if round)=		Sides (if rectangular)=	9	9	

Sandy Soil Criteria Tests*

Trial No.	StartTime	Stop Time	Time Interval, (min.)	Initial Depth of Water (in.)	Final Depth of Water (in.)	Change in Water Level (in.)	Greater than or Equal to 6"? (y/n)
1							
2							

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Other wise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Δt Time Interval (min.)	D_o Initial Depth of Water (in.)	D_f Final Depth of Water (in.)	ΔD Change in Water Level (in.)	Percolation Rate (in./hr.)
1	12:47:45	13:17:45	30	22.98	19.67	3.31	6.6
2	13:21:30	13:51:30	30	22.89	20.31	2.58	5.2
3	13:53:00	14:23:00	30	22.96	20.39	2.57	5.1
4	14:25:30	14:55:30	30	22.91	20.29	2.62	5.2
5	14:57:45	15:27:45	30	22.93	20.26	2.67	5.3
6	15:29:30	15:59:30	30	23.03	20.31	2.72	5.4
7	16:01:00	16:31:00	30	22.91	20.14	2.77	5.5
8	16:32:15	17:02:15	30	22.91	20.07	2.84	5.7
9	17:05:15	17:35:15	30	22.94	20.02	2.92	5.8
10	17:38:45	18:08:45	30	22.94	19.99	2.95	5.9
11	18:11:00	18:41:00	30	22.96	20.05	2.91	5.8
12	18:42:45	19:12:45	30	22.91	20.09	2.82	5.6
13							
14							
15							

COMMENTS:

April 7, 2020

SEI File No. 18-16619

The Dirt Guys
P.O. Box 5218
Bakersfield, CA 93388

Attention: Mr. Karl Schwartz

Subject: **Laboratory Testing Results of One (1) R-Value Sample**
Project: Big Bear B-8 @ 0-1'

Dear Mr. Schwartz:

Submitted herewith are the laboratory testing results of one (1) R-Value Sample retrieved from the above referenced project on April 3, 2020.

The Resistance "R" Value by stabilometer was determined and performed according to Caltrans test method CTM 301 and results are shown on the document labeled Figure A-1.

As page 2 of this report we have provided a data table with a summary of the testing results. Also attached for your reference are the laboratory testing reports.

We hope this provides the information you require. If you should have any questions or need further assistance, please contact us.

Respectfully submitted,
SOILS ENGINEERING, INC.



Andrew Lucas
Laboratory Manager

Attachments: (2)

DRAFT

The Dirt Guys

Laboratory Testing Services
Miscellaneous Testing for Various Projects
Various Locations in Kern County, CA

SEI File No. 18-16619
April 7, 2020

TABLE 1

TEST LOCATION	USCS	% < # 200	CONSOLIDATION				DIRECT SHEAR		UNCONFINED COMPRESSION		E.I.	ATTERBERG LIMITS			R-VALUE		MAXIMUM DENSITY	
			C _c	C _s	S.P. (psf)	HV %	C, (ksf)	F.A.	Q _u , (psi)	C, (ksf)		LL	PL	PI	RV	EP	MDD (pcf)	O.M.
Big Bear B-8 @ 0-1'	SC														46	0		

CONSOLIDATION
Cc - Compression Index
Cs - Swell Index
S.P. (psf) - Swell Pressure
HV % - Heave Percentage / Collapse

UNCONFINED COMPRESSION
Q_u (psi) - Unconfined Compression
Strength
C, (ksf) - Cohesion

DIRECT SHEAR
C (ksf) - Cohesion
F.A. - Friction Angle

E.I. - EXPANSION INDEX
ATTERBERG LIMITS
LL - Liquid Limit
PL - Plastic Limit
PI - Plasticity Index

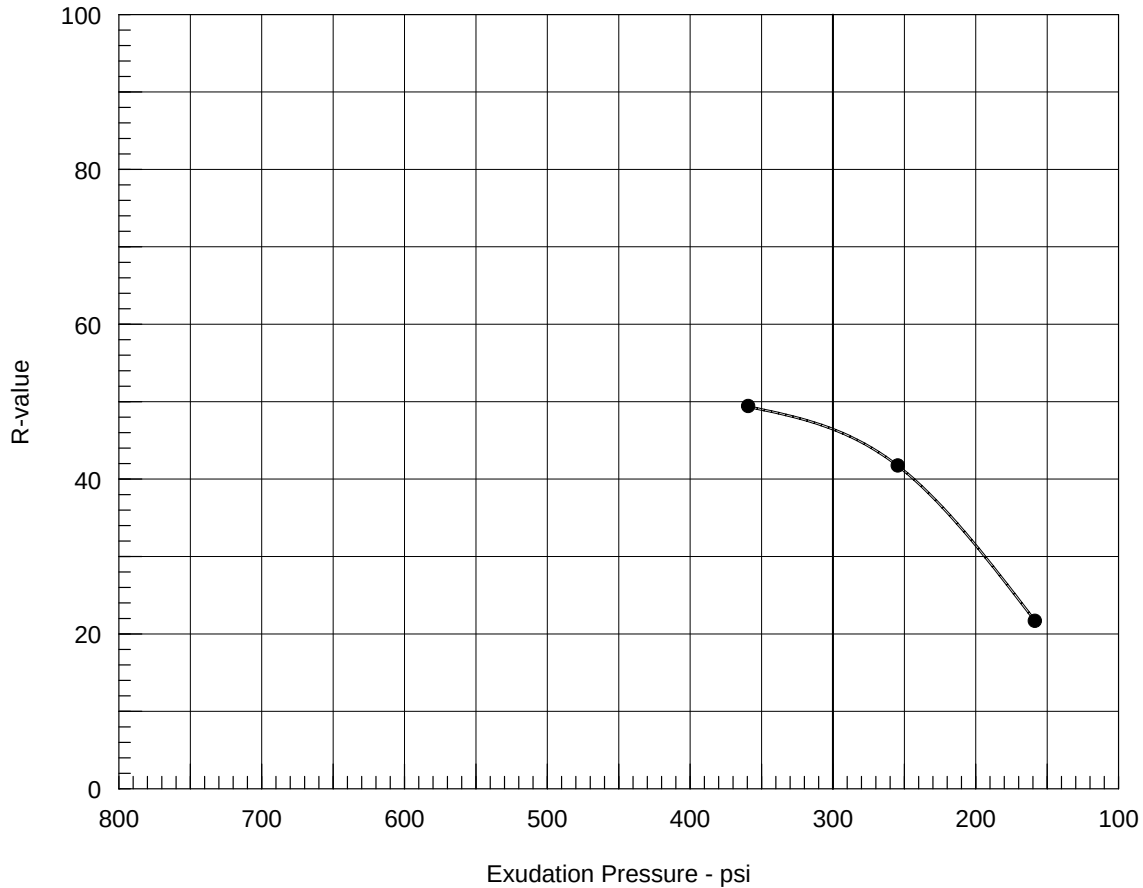
(R)ESISTANCE VALUE
RV - R-Value @ 300 psi
EP - Expansion Press @ 300 psi

MAXIMUM DENSITY
MDD (pcf) - Max Dry Density
O.M. - Optimum Moisture

SOILS ENGINEERING, INC.

R-VALUE TEST REPORT

DRAFT



Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	190	122.9	11.3	0.00	56	2.47	359	49	49
2	90	121.0	12.4	0.00	68	2.49	254	42	42
3	40	119.4	13.5	0.00	103	2.52	158	22	22

Test Results	Material Description
R-value at 300 psi exudation pressure = 46	CLAYEY SAND; dark brown, medium plasticity, trace of gravel.
Project No.: 16619 Project: Miscellaneous Testing for Various Projects Location: Big Bear B-8 @ 0-1' Sample Number: 73779 Depth: 0-1' Date: 4/7/2020	Tested by: RG Checked by: AL Remarks: Test Date: 04/03/20
R-VALUE TEST REPORT SOILS ENGINEERING, INC.	Figure A-1



Laboratories, Inc.

Environmental Testing Laboratory Since 1949



DRAFT

Date of Report: 04/14/2020

Karl Schwartz

Dirt Guys

4808 Ortiz Ct. Suite D
Bakersfield, CA 93308

Client Project: 42175 Big Bear Blvd.
BCL Project: Miscellaneous Samples
BCL Work Order: 2009895
Invoice ID: B377212

Enclosed are the results of analyses for samples received by the laboratory on 4/3/2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Christina Herndon
Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



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DRAFT

Chain of Custody and Cooler Receipt Form for 2009895 Page 1 of 2

[illegible]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Chain of Custody and Cooler Receipt Form for 2009895 Page 2 of 2

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page 1 Of 1							
Submission #: 20-09895											
SHIPPING INFORMATION			SHIPPING CONTAINER		FREE LIQUID						
Fed Ex ☐	UPS ☐	Ontrac ☐	Hand Delivery ☒	Ice Chest ☐	YES ☐ NO ☐						
BC Lab Field Service ☐	Other ☐ (Specify)		None ☒ Box ☐	Other ☐ (Specify)	W / S						
Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments: NO ice											
Custody Seals Ice Chest ☐ Containers ☐ None ☒ Comments:											
Intact? Yes ☐ No ☐ Intact? Yes ☐ No ☐											
All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐											
COC Received		Emissivity: 0.95	Container: ziplock	Thermometer ID: 274	Date/Time: 4/3/20						
☒ YES ☐ NO		Temperature: (A) 23.2°C / (C) 23.2°C		Analyst Init: [Signature]							
SAMPLE CONTAINERS		SAMPLE NUMBERS									
		1	2	3	4	5	6	7	8	9	10
QT PE UNPRES											
4oz / 8oz / 16oz PE UNPRES											
2oz Cr ⁶											
QT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz											
PT CYANIDE											
PT NITROGEN FORMS											
PT TOTAL SULFIDE											
2oz. NITRATE / NITRITE											
PT TOTAL ORGANIC CARBON											
PT CHEMICAL OXYGEN DEMAND											
PIA PHENOLICS											
40ml VOA VIAL TRAVEL BLANK											
40ml VOA VIAL											
QT EPA 1664											
PT ODOR											
RADIOLOGICAL											
BACTERIOLOGICAL											
40 ml VOA VIAL- 504											
QT EPA 508/608/5080											
QT EPA 515.1/5150											
QT EPA 525											
QT EPA 525 TRAVEL BLANK											
40ml EPA 547											
40ml EPA 531.1											
3oz EPA 548											
QT EPA 549											
QT EPA 801SM											
QT EPA 8270											
8oz / 16oz / 32oz AMBER											
8oz / 16oz / 32oz JAR											
SOIL SLEEVE											
PCB VIAL											
PLASTIC BAG											
TEDLAR BAG											
FERROUS IRON											
INCORE											
SMART KIT											
SUMMA CANISTER											
Comments:											
Sample Numbering Completed By: [Signature] Date/Time: 4/3/20 1431 Rev 21 05/23/2016											
= Actual / C = Corrected											



Dirt Guys
4808 Ortiz Ct. Suite D
Bakersfield, CA 93308

Reported: 04/14/2020 15:58
Project: Miscellaneous Samples
Project Number: 42175 Big Bear Blvd.
Project Manager: Karl Schwartz

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2009895-01	COC Number:	---	Receive Date:	04/03/2020 12:15
	Project Number:	---	Sampling Date:	03/30/2020 15:00
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	B-4:0-7'	Lab Matrix:	Solids
	Sampled By:	Karl Schwartz	Sample Type:	Soil



Dirt Guys
4808 Ortiz Ct. Suite D
Bakersfield, CA 93308

Reported: 04/14/2020 15:58
Project: Miscellaneous Samples
Project Number: 42175 Big Bear Blvd.
Project Manager: Karl Schwartz

Chemical Analysis

BCL Sample ID:	2009895-01	Client Sample Name:	B-4:0-7', 3/30/2020 3:00:00PM, Karl Schwartz					
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
pH	7.94	pH Units	0.05	0.05	EPA-9040	ND	pH1:1	1
pH Measurement Temperature	21.4	C	0.1	0.1	EPA-9040	ND		1
Chloride	41	mg/kg	5.0	0.59	EPA-300.0	ND		2
Sulfate	52	mg/kg	10	2.1	EPA-300.0	ND		2

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	Prep Method
1	EPA-9040	04/13/20 13:00	04/13/20 13:00		RT1	MANUAL	1	B075276	General Preparation
2	EPA-300.0	04/08/20 08:50	04/11/20 03:55		MRC	IC5	1	B074857	Water Extract X10

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Dirt Guys
4808 Ortiz Ct. Suite D
Bakersfield, CA 93308

Reported: 04/14/2020 15:58
Project: Miscellaneous Samples
Project Number: 42175 Big Bear Blvd.
Project Manager: Karl Schwartz

Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B074857						
Chloride	B074857-BLK1	ND	mg/kg	5.0	0.59	
Sulfate	B074857-BLK1	ND	mg/kg	10	2.1	
QC Batch ID: B075276						
pH	B075276-BLK1	ND	pH Units	0.05	0.05	
pH Measurement Temperature	B075276-BLK1	ND	C	0.1	0.1	

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Dirt Guys
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Bakersfield, CA 93308

Reported: 04/14/2020 15:58
Project: Miscellaneous Samples
Project Number: 42175 Big Bear Blvd.
Project Manager: Karl Schwartz

Chemical Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: B074857										
Chloride	B074857-BS1	LCS	52.530	50.000	mg/kg	105		90 - 110		
Sulfate	B074857-BS1	LCS	104.40	100.00	mg/kg	104		90 - 110		
QC Batch ID: B075276										
pH	B075276-BS1	LCS	2.0550	2.0000	pH Units	103		95 - 105		

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Dirt Guys
4808 Ortiz Ct. Suite D
Bakersfield, CA 93308

Reported: 04/14/2020 15:58
Project: Miscellaneous Samples
Project Number: 42175 Big Bear Blvd.
Project Manager: Karl Schwartz

Chemical Analysis

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: B074857		Used client sample: Y - Description: B-4:0-7', 03/30/2020 15:00									
Chloride	DUP	2009895-01	41.450	41.560		mg/kg	0.3		20		
	MS	2009895-01	41.450	579.33	505.05	mg/kg		107		80 - 120	
	MSD	2009895-01	41.450	581.12	505.05	mg/kg	0.3	107	20	80 - 120	
Sulfate	DUP	2009895-01	51.600	54.720		mg/kg	5.9		20		
	MS	2009895-01	51.600	1106.7	1010.1	mg/kg		104		80 - 120	
	MSD	2009895-01	51.600	1107.8	1010.1	mg/kg	0.1	105	20	80 - 120	
QC Batch ID: B075276		Used client sample: N									
pH	DUP	2009624-01	8.0660	8.0740		pH Units	0.1		20		

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Dirt Guys
4808 Ortiz Ct. Suite D
Bakersfield, CA 93308

Reported: 04/14/2020 15:58
Project: Miscellaneous Samples
Project Number: 42175 Big Bear Blvd.
Project Manager: Karl Schwartz

Notes And Definitions

MDL Method Detection Limit
ND Analyte Not Detected
PQL Practical Quantitation Limit
pH1:1 pH result reported on a 1:1 dilution of sample

Expansion Index Test Worksheet
ASTM D-4829

Project Address:	42175 Big Bear Blvd
Project #:	2020-032
Sample ID:	B-4: 0-7'
Depth (ft):	0-7'
Sample Description:	Brown silty sand

Specific Gravity	2.7
Initial Dry Density of Soil (lb/ft ³)	100
Initial Moisture Content (%)	11.3%
Saturation (%)	46.0%
Final Moisture Content (%)	24.7%

Expansion Index at 50% Saturation	4
-----------------------------------	---

APPENDIX E

**TRAFFIC
IMPACT ANALYSIS**

TRAFFIC IMPACT ANALYSIS

FOR

GROCERY OUTLET STORE

Big Bear Lake, CA

Prepared For:

MMCG GOI Big Bear, LLC
5750 Genesis Court, Suite 103
Frisco, TX 75034

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555

September 8, 2020

4542-005

Big Bear Lake Grocery Outlet.rpt

KD Anderson & Associates, Inc.

Transportation Engineers

**TRAFFIC IMPACT ANALYSIS FOR
GROCERY OUTLET STORE
Big Bear Lake, CA**

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September 8, 2020

KDA

TRAFFIC IMPACT ANALYSIS FOR GROCERY OUTLET STORE Big Bear Lake, California

EXECUTIVE SUMMARY

Project Description

The Big Bear Lake Grocery Outlet Store is a proposed retail commercial development that will occupy a site on the east side of Big Bear Blvd between its intersections with Stanfield Cut-off Road to the north and Fox Farm Road to the south, as noted in Figure 1. The project involves 18,000 sf of retail commercial space.

Proposed Access. The project proposes full access at two locations on Big Bear Blvd, as noted in Figure 2. The northern access is roughly 650 feet from the signalized Stanfield Cut-off Road intersection (centerline to centerline). The second access is about 460 feet to the south and is roughly 160 feet from the traffic signal at the Interlaken Shopping Center. Full access is proposed at each location. Each driveway access road has a grade of about 6% downhill to Big Bear Blvd.

Trip Generation. Based on ITE trip generation rates that are specific to Discount Supermarkets, the Grocery Outlet Store project is expected to generate approximately 1,922 daily vehicle trips, with 69 trips generated in the a.m. peak hour and 166 trips occurring in the weekday p.m. peak hour. During the p.m. peak hour and on a daily basis 36% of the site traffic is expected to be “pass-by” trips drawn from traffic already on Big Bear Blvd (SR 18).

Improvements. The project’s frontage on Big Bear Blvd will be improved as required by the City of Big Bear Lake and Caltrans, although sidewalks, curb and gutter are already available. New driveways will be installed, and existing driveways will be replaced as required under City and Caltrans improvements standards. On-site improvements include grading / excavation to remove topography that lies within the line of sight are required under Caltrans standard.

CEQA Impacts. The project does not result in significant transportation impacts under the California Environmental Quality Act (CEQA). Under direction published by the State of California Office of Planning and Research (OPR), the proposed project is a “locally serving retail” use of less than 50,000 sf which is presumed to have a less than significant impact to regional VMT. The project’s impacts to alternative transportation modes (i.e., pedestrian, bicycle and transit) and to safety are not significant.

Recommendations. While not required under CEQA, the proposed Grocery Outlet Store should:

1. Contribute to implementation of long-term multimodal circulation system improvements by:

- Paying traffic impact fees adopted by the City of Big Bear Lake
 - Installing frontage improvements if required by the City of Big Bear Lake
2. No changes to current striping on Big Bear Blvd are required.
 3. Full access at each driveway is feasible, but the City of Big Bear Lake will need to consider the southern driveway when and if new traffic controls are installed at the N. Sandalwood Drive intersection in the future.
 4. The final site plan should include applicable turning radii for delivery truck access.

Study Scope

The breadth of this traffic analysis was determined in consultation with the City of Big Bear Lake and Caltrans District 8. The draft Scoping letter submitted to Caltrans and the responses received from Caltrans are included in the Appendix. This analysis addresses traffic conditions occurring on weekday a.m. and p.m. peak traffic periods. The analysis addresses the operation of site access and four (4) existing intersections that were identified during the scoping process in consultation with both agencies.

1. Big Bear Blvd (SR 18) / Stanfield Cut-off Road / Starvation Flats Road
2. Big Bear Blvd (SR 18) / N. Sandalwood Drive
3. Big Bear Blvd (SR 18) / Interlaken Shopping Center / Lakeview Center
4. Big Bear Blvd (SR 18) / Fox Farm Road

At Caltrans' direction, the traffic study considers the following scenarios:

- Existing Conditions (2020) adjusted to account for COVID-19 and the absence of school traffic, as needed.
- Existing Conditions Plus Grocery Outlet Store.
- Year 2021 Baseline (Short Term Future) Conditions with ambient background traffic growth and trips from approved but unconstructed projects.
- Year 2021 Plus Grocery Outlet Store.
- Year 2040 Cumulative Conditions per SBTA traffic model forecasts without the Project.
- Year 2040 Cumulative Conditions with Grocery Outlet.

Summary Existing Traffic Conditions

Traffic Volumes. Caltrans reports that SR 18 carries an Annual Average Daily Traffic (AADT) volume of 23,500 vehicles per day west of the project site. No recent traffic volume counts were available for study intersections, and new peak hour traffic counts were made for this analysis in July 2020. Local schools were not in session at the time and observed traffic volumes may have been affected by COVID-19. These new counts were adjusted to reflect "normal" conditions

based on cell-phone based data available from Streetlight based on comparison of average 2019 volumes and July 2020 levels.

Level of Service. These adjusted traffic volumes were used to calculate current operating Levels of Service, and as shown in Table E-1 and Table E-2. With one exception all locations carry volumes that satisfy the minimum LOS D goal employed for traffic studies in the City of Big Bear Lake. The Big Bear Blvd (SR 18) / Stanfield Cut-off Road intersection operates at LOS E in the a.m. peak hour. Conditions at this location could be improved by implementation of a project identified in the 2016 San Bernardino County RTP/SCS which will widen SR 18 to 4-lanes from the west city limits to the east city limits.

Queuing / Traffic Signal Warrants. Current traffic volumes cause 95th percentile queues in left turn lanes that exceed available storage, but in most locations striped lanes are followed by SR 18's Two-Way Left-Turn (TWLT) lane, and through traffic is unaffected. The current traffic volume at the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection satisfies peak hour traffic signal warrants but because nearly all of the minor street approach volume turns right, a traffic signal is not justified.

Alternative Transportation Modes. The existing system of pedestrian and bicycle facilities in this area of the City of Big Bear Lake includes sidewalks on both sides of Big Bear Blvd. A Class II bike lane is provided on the west side of Big Bear Blvd, and signs / markings indicating that bicycles share the road with automobiles exist on the east side of the road. No additional bicycle facilities are planned.

Mountain Transit provides service from its Transfer Center on Fox Farm Road about ¼ mile from the project site. Transit routes pass the site on Big Bear Blvd, and transit shelters exist on both sides of Big Bear Blvd in the area east of the site.

Existing Plus Grocery Outlet Store

The impacts of the Grocery Outlet Store alone were identified by superimposing project trips onto the Year 2020 background traffic volumes and reconsidering Levels of Service and traffic signal warrants. With two exceptions all study intersections would continue to operate with LOS D or better conditions. The Big Bear Blvd (SR 18) / Stanfield Cut-off Road intersection would continue to operate at LOS E. The eastbound approach to the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection is projected to operate at LOS E in the p.m. peak hour. While LOS E exceeds the City's LOS D standard, a traffic signal is not recommended due to the low traffic volume on that approach. No new location will experience 95th percentile queues that would exceed available storage, and the status of peak hour traffic signal warrants at study locations will not change. Adequate facilities for pedestrians and bicyclists already exist in the area of the project, and convenient transit service is available.

**TABLE E-1
SUMMARY OF AM PEAK HOUR LEVELS OF SERVICE**

#	Intersection	Control	AM Peak Hour											
			Existing		Existing Plus Project		Year 2021		Year 2021 Plus Project		Year 2040		Year 2040 Plus Project	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Big Bear Blvd (SR 18) / Stanfield Cut-off Rd	Signal	63.8	E	67.5	E	69.9	E	74.1	E	41.7	D	43.4	D
5	Big Bear Blvd (SR 18) / North Access Westbound approach	SSS	-	-	11.3	B	-	-	11.1	B	-	-	12.5	B
6	Big Bear Blvd (SR 18) / South Access Westbound approach	SSS	-	-	18.4	C	-	-	12.1	B	-	-	23.0	B
2	Big Bear Blvd (SR 18) / N. Sandalwood Drive Eastbound approach Westbound approach	SSS	32.2	D	33.0	D	33.9	D	34.8	D	95.8	F	101.9	F
			16.9	C	17.3	C	17.4	C	17.8	C	67.8	F	73.5	F
3	Big Bear Blvd (SR 18) / Interlaken SC Access	Signal	14.7	B	14.8	B	15.2	B	15.3	B	17.3	B	17.5	B
4	Big Bear Blvd (SR 18) / Fox Farm Road	Signal	16.1	B	16.3	B	16.6	B	16.8	B	23.6	C	24.1	C

SSS is Side Street Stop

BOLD values exceed LOS D

**TABLE E-2
SUMMARY OF PM PEAK HOUR LEVELS OF SERVICE**

#	Intersection	Control	PM Peak Hour											
			Existing		Existing Plus Project		Year 2021		Year 2021 Plus Project		Year 2040		Year 2040 Plus Project	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Big Bear Blvd (SR 18) / Stanfield Cut-off Rd	Signal	37.4	D	40.8	D	42.3	D	46.4	D	30.9	C	32.5	C
5	Big Bear Blvd (SR 18) / North Access Westbound approach	SSS	-	-	11.5	B	-	-	11.1	B	-	-	18.2	C
6	Big Bear Blvd (SR 18) / South Access Westbound approach	SSS	-	-	11.6	B	-	-	12.1	B	-	-	42.7	E
2	Big Bear Blvd (SR 18) / N. Sandalwood Drive Eastbound approach Westbound approach	SSS	33.8	D	35.2	E	48.5	E	51.2	F	240.6	F	271.6	F
			18.2	C	19.4	C	19.9	C	20.4	C	56.3	F	61.4	F
3	Big Bear Blvd (SR 18) / Interlaken SC Access	Signal	16.2	B	16.4	B	16.8	B	17.0	B	23.0	C	23.7	C
4	Big Bear Blvd (SR 18) / Fox Farm Road	Signal	14.6	B	15.1	B	15.0	B	15.5	B	31.3	C	33.0	C

SSS is Side Street Stop

BOLD values exceed LOS D

Year 2021 (Short Term Future) Conditions

The Year 2021 condition reflects the contribution of trips caused by other approved projects in Big Bear Lake as well as ambient background traffic growth. A 2% annual growth rate was applied based on review of traffic volume forecasts from the SBTA regional traffic model. The City of Big Bear Lake identified approved projects, all of which are west of the site towards the Village. The traffic contribution from these projects was estimated and added to the ambient traffic growth.

Review of background Year 2021 conditions reveals that two study intersections will exceed the LOS D standard. The Big Bear Blvd (SR 18) / Stanfield Cut-off Road intersection will continue to operate at LOS E. The eastbound approach to the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection will operate at LOS E. No appreciable change to peak hour queuing is anticipated and six locations will have queues that exceed available storage lanes. No change to the status of peak hour traffic signal warrants at the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection results.

Measures to improve the Level of Service at the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection were considered. Installing a traffic signal, reconstructing the intersection to provide a roundabout, prohibiting outbound left turns or widening the eastbound approach to provide an auxiliary turn lane could provide Level of Service satisfy the minimum LOS D standard on the approach. However, because the volume on the eastbound approach remains below a level satisfying minimum approach requirements under peak hour warrants, no improvements are recommended.

Year 2021 Plus Grocery Outlet Store

The effects of the Grocery Outlet Store were identified by superimposing project trips onto the background Year 2021 traffic volumes and reconsidering Levels of Service, 95th percentile queues and traffic signal warrants. If no improvements to the area circulation system are made the same locations which experience Level of Service exceeding LOS D will continue to do so. No additional locations would have 95th percentile queues that exceed available storage and no change will occur to the status of peak hour traffic signal warrants. Improvements are not recommended.

Year 2040 Background Cumulative Conditions

Forecasts from the SBTA traffic model suggest that volume of traffic on Big Bear Blvd may increase by a factor of 1.25 by the Year 2040. A.m. and p.m. peak hour traffic model forecasts were employed to identify “intersection approach specific” growth factors which were applied to Year 2020 volumes using the “Furness” techniques from the Transportation Research Board’s (TRB) NCHRP Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. These preliminary results were then rounded and balanced from intersection to

intersection along Big Bear Blvd. The improvement project identified in 2016 RTP/SCS to widen SR 18 to 4-lanes east of Stanfield Cut-off Road was assumed to be implemented by 2040.

Under Year 2040 conditions all study intersections are projected to satisfy the LOS D minimum standard with one exception. The side street approaches to the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection are expected to operate at LOS F. Peak hour queues in left turn lanes will continue to exceed storage at six locations, the N. Sandalwood Drive intersection would satisfy peak hour traffic signal warrants.

Improvements to the Big Bear Blvd (SR 18) / Sandalwood Drive intersection would be needed, and potential improvement alternatives have been considered. The distance from the N. Sandalwood Drive intersection to the Interlaken SC signal is only about 600 feet, which would be less than the planning level minimum of 1,000 feet commonly employed by Caltrans. However, while the distance is not desirable, it could be possible to install a traffic signal at this location and coordinate the operation of signals along SR 18. While right of way would be needed and major roadway reconstruction would be involved, a roundabout might be constructed. Right of way would need to be acquired to widen the eastbound N. Sandalwood Drive approach and improve the Level of Service, by adding an auxiliary lane, but similar work may not be feasible on the westbound approach and poor Level of Service would remain there. Prohibiting outbound left turns would improve the Level of Service. While it may be physically possible to prohibit left turns onto SR 18 at this intersection, U-turns are not allowed at the signalized intersections on SR 18 north and south of Sandalwood Drive, and reconstruction at those locations to accommodate U-turns would be needed, if it is determined that features to limit left turns do not interfere with snow removal. It is reasonable to conclude that Caltrans District 8 would require that an Intersection Control Evaluation (ICE) be prepared to reach a decision. An ICE report would include preliminary engineering design and consider the feasibility, ROW needs and relative cost of alternatives.

Year 2040 Cumulative Plus Grocery Outlet Store

This analysis makes the “worst case” assumption that the trips associated with the Grocery Outlet Store are in addition to the forecast Year 2040 background growth. The project will increase the volume of traffic at study intersections but will not result in any additional public street intersections operating at Levels of Service that exceed LOS D. No new locations experience queues that exceed storage, and the status of traffic signal warrants does not change.

If a mechanism is identified for allocating the local share of the cost of improvements to the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection to all benefitting development, then the proposed Grocery Outlet Store could reasonably contribute.

The new westbound approach to the south driveway on Big Bear Blvd (SR 18) is projected to operate at LOS E in the p.m. peak hour. This condition exceeds the LOS D minimum. However, because peak hour traffic signal warrants are not met and the project has adequate driveway throat depth at this location, improvements are not recommended.

Access / Internal Circulation

Feasibility of Full Access. The two project driveways will satisfy applicable design standards for sight distance with proposed improvements, applicable guidelines for deceleration will be met and no change to current striping patterns are needed. Because of the southern driveway's proximity to the N. Sandalwood Drive intersection, possible traffic controls at that location could require that outbound left turns be prohibited at this driveway in the future as the area west of SR 18 develops. However, while the City of Big Bear may need to consider this issue in the future no limitation is recommended under opening day conditions.

Right Turn Lanes. The extent to which the project's driveways might require separate right turn lanes has been considered based on precedence at other locations on SR 18 and the volume of traffic turning right at each location. Separate right turn lanes have not been installed at other driveways on SR 18 under similar circumstances. Because the number of right turns at the project access driveways is projected to be low separate right turn lanes are not recommended.

Driveway Throat Depths. The length of the throat at each driveway has been assessed to confirm that waiting vehicles do not extend back into the site and block the path of entering vehicles. The northern driveway has a 220 foot long throat and the southern driveway throat is 260 feet long. In comparison, the 95th percentile queue at each location under Year 2040 condition is 60 feet. At each location the projected queue is much less than the available throat, and the design is adequate.

**TRAFFIC IMPACT ANALYSIS FOR
GROCERY OUTLET STORE**
Big Bear Lake, California

INTRODUCTION

Project Description

The Big Bear Lake Grocery Outlet Store project is a discount market that will occupy a site on the east side of Big Bear Blvd (SR 18) in the area immediately west of its intersection with Stanfield Cut-off Road, as noted in Figure 1. As noted in Figure 2 (site plan), the proposed project will create a 16,000 sf building with access to Big Bear Blvd at two locations.

Traffic Study Scope

This analysis is intended to evaluate the relative traffic impacts of the project within a range of relevant scenarios as required under City and Caltrans traffic study guidelines. This analysis considers traffic conditions occurring during weekday a.m. and p.m. peak hours, and evaluates the following scenarios:

- Existing Conditions
- Existing Conditions Plus Grocery Outlet Store
- Baseline (Short Term Future) Conditions with ambient traffic growth Approved Projects
- Baseline Conditions plus Grocery Outlet Store
- Year 2040 Cumulative Conditions with no development on the site
- Year 2040 Cumulative Conditions with Grocery Outlet Store

The traffic analysis also discusses project impacts to alternative transportation modes.

Because the project is a community serving retail use under 50,000 sf, it is deemed to have a less than significant impact under CEQA with regards to SB 743 requirements for analysis of Vehicle Miles Traveled (VMT) under the directions contained in Office of Planning & Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018). Because the project is a permitted use under its current CG zoning designation, the feasibility of site access is the key issue addressed in this traffic analysis.

The San Bernardino County Association of Governments Congestion Management Program (CMP) identifies the criteria under which a Traffic Impact Analysis Report (TIA) is required to address designed CMP facilities. A TIA shall be prepared by or at the direction of the local jurisdiction with land use authority when a change in land use, a development project, or at local discretion, a group of projects are forecast to generate 250 two-way peak hour trips based on trip

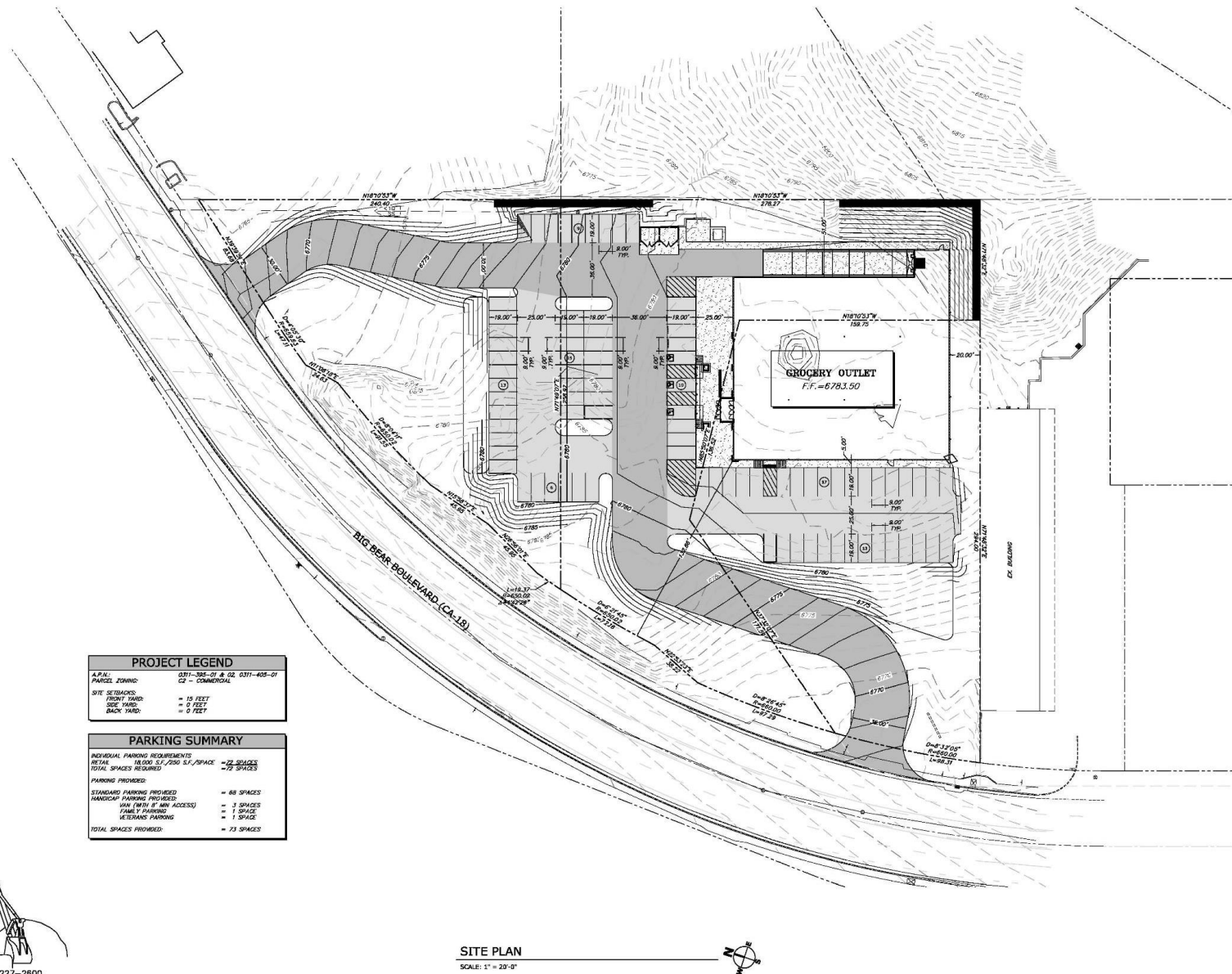
generation rates published for the applicable use or uses in the Institute of Transportation Engineers' Trip Generation or other CMA-approved data source. Pass-by trips are excluded in this determination. In this case, the proposed project's peak hour trip generation falls below that threshold, and analysis of additional locations on the CMP network beyond those requested by the City of Big Bear Lake and Caltrans is not required.





KD Anderson & Associates, Inc.
Transportation Engineers

4542-05 RA 9/8/2020



PROJECT LEGEND	
A.P.N.:	031-395-01 & 02, 031-405-01
PARCEL ZONING:	C2 - COMMERCIAL
SITE SETBACKS:	
FRONT YARD:	= 15 FEET
SIDE YARD:	= 0 FEET
BACK YARD:	= 0 FEET

PARKING SUMMARY	
INDIVIDUAL PARKING REQUIREMENTS	~22 SPACES
NET AREA: 10,000 S.F./2200 S.F./SPACE	~22 SPACES
TOTAL SPACES REQUIRED	~22 SPACES
PARKING PROVIDED:	
STANDARD PARKING PROVIDED	= 88 SPACES
HANDICAP PARKING PROVIDED:	
VAN (WITH 8' MIN ACCESS)	= 3 SPACES
FAMILY PARKING	= 1 SPACE
VETERANS PARKING	= 1 SPACE
TOTAL SPACES PROVIDED:	= 73 SPACES

SITE PLAN
SCALE: 1" = 20'-0"

SITE PLAN

SHEET	SHEET TITLE	SUBMITTAL RECORD	PROJECT/CLIENT	DATE	SUBMITTAL	DESIGNER	STAMP	TECTONICS DESIGN GROUP 7380 Sandhill Rd. #250, Reno, Nevada 89521 Tel: 775-824-9988 Fax: 775-824-9986 www.tectonicsdesigngroup.com	
								Grocery Outlet Big Bear City, California MAIN & MAIN 6600 Paige Road, Suite 224, The Colony, TX 75056	

EXISTING SETTING

This portion of this traffic impact study presents a description of the existing transportation system in the vicinity of the proposed project site.

Study Area - Roadways

The following is a description of roadways that provide regional or local access to the proposed project.

Big Bear Blvd (SR 18). Big Bear Blvd is the primary east-west route through the City of Big Bear Lake, and SR 18 links the community with San Bernardino to the west and the Lucerne Valley to the north. In the area of the project Big Bear Blvd is a four-lane street with continuous center Two-Way Left-Turn (TWLT) lane. Big Bear Blvd is designated a 4-lane Primary Arterial in the City of Big Bear Lake General Plan Circulation Element. The right of way is 80 feet, and the roadway cross section is to be 64 feet. Sidewalks exist on both sides of Big Bear Blvd. A Class II bike lane exists along the west side of the street. On-street parking is prohibited, and the speed limit on Big Bear Blvd is 40 mph along the project frontage. East of Stanfield Cut-off Road the highway narrows to two lanes, and bike lanes and sidewalks end. The most recent traffic volume data published by Caltrans indicates that SR 18 carried an Average Annual Daily Traffic (AADT) volume of 23,500 vehicles per day in 2018 in the area of the project, with 20,500 AADT east of the Stanfield Cut-off.

Commercial access to Big Bear Blvd occurs relatively frequently in the immediate area of the project. The project site has two existing driveways, and north of the site there are four driveways on the east side of SR 18 between the site and the Stanfield Cut-off. There are no driveways on the west side of Big Bear Blvd directly across from the project. South of the site, the retail centers on both sides of the highway have full access driveways that are controlled by side street stop signs and by traffic signals.

Stanfield Cut-off Road. The Stanfield Cut-off Road is located northeast of the project. The road extends for about ½ mile and links SR 18 and SR 38. The roadway has two travel lanes and broad paved shoulders. The roadway is designated a Secondary Arterial (60' ROW) in the City of Big Bear Lake GP Circulation Element. The posted speed is 35 mph.

N. Sandalwood Drive. N. Sandalwood Drive is a local street that extends west from Big Bear Blvd from an intersection located about 160 feet south of the proposed project's southern access (centerline to centerline). This two-lane road continues around to Fox Farm Road to provide access to a developing area zone for General Commercial area. Class II bike lanes are provided on the north side of the road, and sidewalk has been constructed on the north side of the street for about 475 feet west of Big Bear Blvd.

Fox Farm Road. Fox Farm Road is a two-lane Collector street (60' ROW) that extends east and west from Big Bear Blvd. The western leg serves a commercial / industrial area and continues to

residences near the south shore of Big Bear Lake. This segment has Class II bike lanes and sidewalks. The eastern leg has a 30 mph speed limit and continues to the eastern limits of the City.

Study Area - Intersections

In urban areas the quality of traffic flow is typically governed by the operation of major intersections. Based on direction from City staff and Caltrans District 8, four existing intersections were analyzed for this traffic study. The locations of the study intersections and driveways are shown on Figure 3. The study area will also include the project's two new driveways.

1. Big Bear Blvd / Stanfield Cut-off Rd / Starvation Flats Road (traffic signal)
2. Big Bear Blvd / N. Sandalwood Drive (side street stop signs)
3. Big Bear Blvd / Interlaken Shopping Center Driveway (traffic signal)
4. Big Bear Blvd / Fox Farm Road (traffic signal)

The geometric configuration of each intersection and its traffic controls are described in the text which follows.

The **Big Bear Blvd (SR 18) / Stanfield Cut-off Rd / Starvation Flats Road intersection** is controlled by a traffic signal with conventional “protected left turn” phasing on the state highway and with “permitted” phasing on the side street approaches. This is the first traffic signal as motorists enter the commercial area of City Big Bear Lake from the east, and the next signal to the east is at Division Drive about a mile away. SR 18 changes from a four-lane through the commercial area to two-lane facility easterly to Division Drive at the intersection. Separate left turn lanes exist on the Big Bear Blvd approaches. The eastbound left turn lane is 140 feet long but continues as the TWLT lane. The curbside westbound through lane “drops” as a right turn lane. A second westbound through travel lane begins at the intersection, but because the lane is only 40 feet long the approach operates as a single through lane with a short right turn lane. The northbound Starvation Flats Road approach has a single lane that combines all movements. The southbound Stanfield Cut-off Road approach has a separate right turn lane and a combined thru+left turn lane. U-turns are prohibited on each approach. Crosswalks are striped across the north, south and west legs of the intersection, and ramps are provided. Transit shelters exist on both sides of Big Bear Blvd about 150 feet west of the intersection.

The **Big Bear Blvd (SR 18) / N Sandalwood Drive intersection** is a “tee” controlled by stop sign on the eastbound and westbound approaches. Each side street approach is a single lane, and the TWLT lane on Big Bear Blvd provides left turn access. There are no crosswalks marked at this intersection.

The **Big Bear Blvd / Interlaken Shopping Center / Lakeview Center intersection** is controlled by a traffic signal. Each side street approach is a single lane, and the TWLT lane on Big Bear Blvd provides left turn access. A separate right turn lane is provided on southbound

Big Bear Blvd. U-turns are prohibited on each approach. There are crosswalks marked at this intersection on the north, west and east legs of the intersection, and ramps are provided.

The **Big Bear Blvd (SR 18) / Fox Farm Road intersection** is controlled by a traffic signal. Each approach has a separate left turn lane, and the Big Bear Blvd lanes have protected phasing. U-turns are prohibited on the SR 18 approaches. Crosswalks are striped across all four legs, and each corner has ramps.

Level of Service Analysis Procedures

Level of Service (LOS) analysis provides a basis for describing existing traffic conditions and for evaluating future conditions with the project and other growth. Level of Service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 1.

TABLE 1 LEVEL OF SERVICE DEFINITIONS		
Level of Service	Signalized Intersection	Unsignalized Intersection
A	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/vehicle
B	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/vehicle and ≤ 15 sec/vehicle
C	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/vehicle and ≤ 25 sec/vehicle
D	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/vehicle and ≤ 35 sec/vehicle
E	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/vehicle and ≤ 50 sec/vehicle
F	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/vehicle
Source: Highway Capacity Manual, 6 th Edition		

Intersection Level of Service Methodology. Intersection Level of Service was calculated for this traffic impact study using the methodology contained in the *Highway Capacity Manual, 6th Edition* (Transportation Research Board) using Synchro 10.0 software. HCM, 6th Edition techniques identify the average length of delays and use that information to determine the operating Level of Service. An overall average delay and Level of Service is determined for intersections controlled by traffic signals or all-way stops. At locations controlled by side street stops, delays can be determined for each movement that must yield the right of way, and the “worst case” delay is employed for analysis. This is most often the condition experienced by side street motorist.

The methods employed to evaluate intersection operations and Level of Service also address the lengths of queues caused by waiting vehicles. For this analysis the 95th percentile queue occurring in left turn lanes was determined from Synchro-SimTraffic simulation.

Standards of Significance. The City of Big Bear Lake General Plan Circulation Element identifies the minimum acceptable Level of Service in Policy C1.2. The City strives to maintain a Level of Service E or better for all intersections and roadway segments within the City during peak traffic times, and a Level of Service D or better during weekdays and off-peak times, to the extent practical.

The 2016 San Bernardino County Association of Governments Congestion Management Program (CMP) prescribed operating standards for facilities included in the CMP. SR 18 is designed a CMP facility. CMP LOS methods evaluate weekend a.m. and p.m. peak hour traffic flow conditions based on arterial travel speed. Because a CMP TIA is not required, the CMP threshold of a minimum LOS E has not been employed.

Caltrans generally endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities, which is consistent with the City’s LOS C standard. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency (City) consult with Caltrans to determine the appropriate Level of Service target. If an existing State highway is operating at less than this target LOS, the existing LOS should be maintained. In general, other traffic studies conducted in San Bernardino County have assumed that Caltrans’ “region-wide goal” for an acceptable LOS on all freeways, road segments and intersections is LOS D.

For this analysis, Level of Service D has been employed as the minimum Level of Service for the City’s transportation system. Roadway facilities operating at Level of Service E or F are considered deficient.

Existing Traffic Volumes

Method to Create Year 2020 Volumes. Because this analysis was initiated after measures were implemented to address the COVID-19 current traffic volumes that may be observed may not be representative of typical conditions. As a result, it was necessary to review this data and identify

a method to use available resources to develop estimates of “regular” Year 2020 traffic volumes at all study locations.

Available Data. Available traffic volume data was requested from local agencies and data collection firms, and Caltrans records were reviewed. Recent data that is relevant to weekday peak hour conditions in limited is limited. No recent intersection turning movement counts were available. As noted earlier, Caltrans reports an AADT volume on SR 18, as well as daily volume over the highest volume month. A “peak hour” volume is reported that is representative of the 50th highest hourly traffic volume, but the specific time period is not identified. Directional peak hour volume data is available for selected location. In this case directional peak hour data is only available for locations on SR 18 more than 10 miles from the site.

For this analysis an alternative approach was taken that makes use of new weekday peak hour traffic volume counts but adjusts observed volumes based on cell-phone based data available from Streetlight Corporation. Streetlight data aggregates cell-phone signals for specific time periods and calibrates that information. By comparing Streetlight data collected in the time period when traffic counts were conducted with data collected prior to COVID-19 when area schools were in session, it was possible to identify individual direction adjustment factors for a.m. and p.m. peak hour periods that could then be applied to the observed volumes at each intersection.

Peak Hour Volume Adjustments. A summary of the methods employed follows:

1. New weekday a.m./p.m. peak hour turning movement counts were conducted at study intersections on Big Bear Blvd on Tuesday July 14, 2020. Worksheets for these volumes are included in the appendix.
2. Streetlight data was assembled for each turning movement during the two hour a.m. and p.m. count periods on Tuesday-Wednesday-Thursday for July 2019, July 2020 and for annualized 2019 conditions.
3. The relationship between July 2019 and July 2020 data was determined, as was the relationship between annualized 2019 and July 2019 data. A combined adjustment factor was identified for each turning movement.
4. The factors were applied and the results reviewed. The results were rounded to the nearest 5 vehicles, and in no case was the adjusted data permitted to be less than the 2019 count.
5. Resulting intersection volumes were balanced for consistency along Big Bear Blvd.

Table 2 notes the results of these adjustments at the Big Bear Blvd (SR 18) / Stanfield Cut-off Road and Big Bear Blvd (SR 18) intersection. As indicated the greatest adjustment occurred during the a.m. peak hour periods, as this time is affected by school closures.

TABLE 2 COMPARISON OF OBSERVED YEAR 2019 AND YEAR 2020 TRAFFIC VOLUME DATA					
Intersection	Approach	Time period	Peak Hour Volume		Adj 2020 7/12/2020
			7/14/2020	Adjusted 2020	
Big Bear Blvd (SR 18) / Stanfield Cut-off Road	Northbound	am	75	120	1.60
		pm	139	155	1.12
	Southbound	am	242	365	1.51
		pm	274	300	1.09
	Eastbound	am	470	570	1.21
		pm	1,057	1,120	1.06
	Westbound	am	690	850	1.23
		pm	565	625	1.11
	all	am	1,477	1,905	1.29
		pm	2,035	2,200	1.08
Big Bear Blvd (SR 18) / Fox Farm Road	Northbound	am	532	590	1.11
		pm	1,068	1,080	1.02
	Southbound	am	789	950	1.20
		pm	871	930	1.07
	Eastbound	am	95	125	1.32
		pm	227	245	1.08
	Westbound	am	101	210	2.07
		pm	120	125	1.04
	all	am	1,517	1,875	1.24
		pm	2,286	2,380	1.04

Adjusted Year 2020 Traffic Volumes. Figure 3 presents the resulting Year 2020 traffic volumes employed for this analysis. This figure also illustrates current intersection lane configurations.

Existing Traffic Operations

Intersection Levels of Service. Table 3 presents existing a.m. peak hour and p.m. peak hour Level of Service at the existing study intersections and driveways. The extent to which traffic within the hour was concentrated into any particular 15-minute period was determined based on the *Peak Hour Factor (PHF)* at each intersection. The observed PHF was incorporated into the LOS analysis to address the specific peaking characteristics of area traffic. The worksheets presenting the calculation of LOS and signal warrants under all development conditions including the Year 2020 conditions are included in the Appendix.

As indicated, with one exception all intersections operate at acceptable LOS (i.e., LOS D or better) during both time periods. The Big Bear Blvd / Stanfield Cut-off Rd intersection operates at LOS E in the a.m. peak hour. The project lists presented in the 2016 San Bernardino County RTP/SCS identifies a project to widen SR 18 to 4 lanes east of Stanfield Cut-off Road, and this work would improve the Level of Service at this location.

TABLE 3 YEAR 2020 PEAK HOUR LEVELS OF SERVICE						
#	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Big Bear Blvd / Stanfield Cut-off Rd	Signal	63.8	E	37.4	D
2	Big Bear Blvd / N. Sandalwood Dr	SSS				
	Eastbound approach		32.2	D	33.8	D
	Westbound approach		16.9	C	18.2	C
3	Big Bear Blvd / Interlaken SC / Lakeview Ctr	Signal	14.7	B	16.2	B
4	Big Bear Blvd / Fox Farm Road	Signal	16/1	B	14.6	B
SSS is Side Street Stop control BOLD values are Levels of Service in excess of LOS C.						

As a comparison, the 2015 San Bernardino County Congestion Management Program (CMP) Monitoring Report identifies the Level of Service on SR 18 based on average travel speed within specific roadway segments. That report notes that on weekends the segment of SR 18 from Lakeview Drive east to Stanfield Cut-off Road provides LOS A conditions in the morning peak hour and LOS B in the p.m. peak hour, with average speeds that range from 29 to 33 mph.

95th Percentile Queues. Table 4 presents the volume of traffic making left turns at intersections and driveways on Big Bear Blvd as well as the length of the 95th percentile queues estimated from SimTraffic simulation. As indicated, the queue in designated left turn lanes exceeds the available storage at several locations. However, at most locations on SR 18 the continuous TWLT lane accommodates queues that extend beyond the striped left turn lane. At the Big Bear Blvd (SR 18) / Fox Farm Road intersection the current queues extend beyond the short left turn lanes striped on the Fox Farm Road approaches.

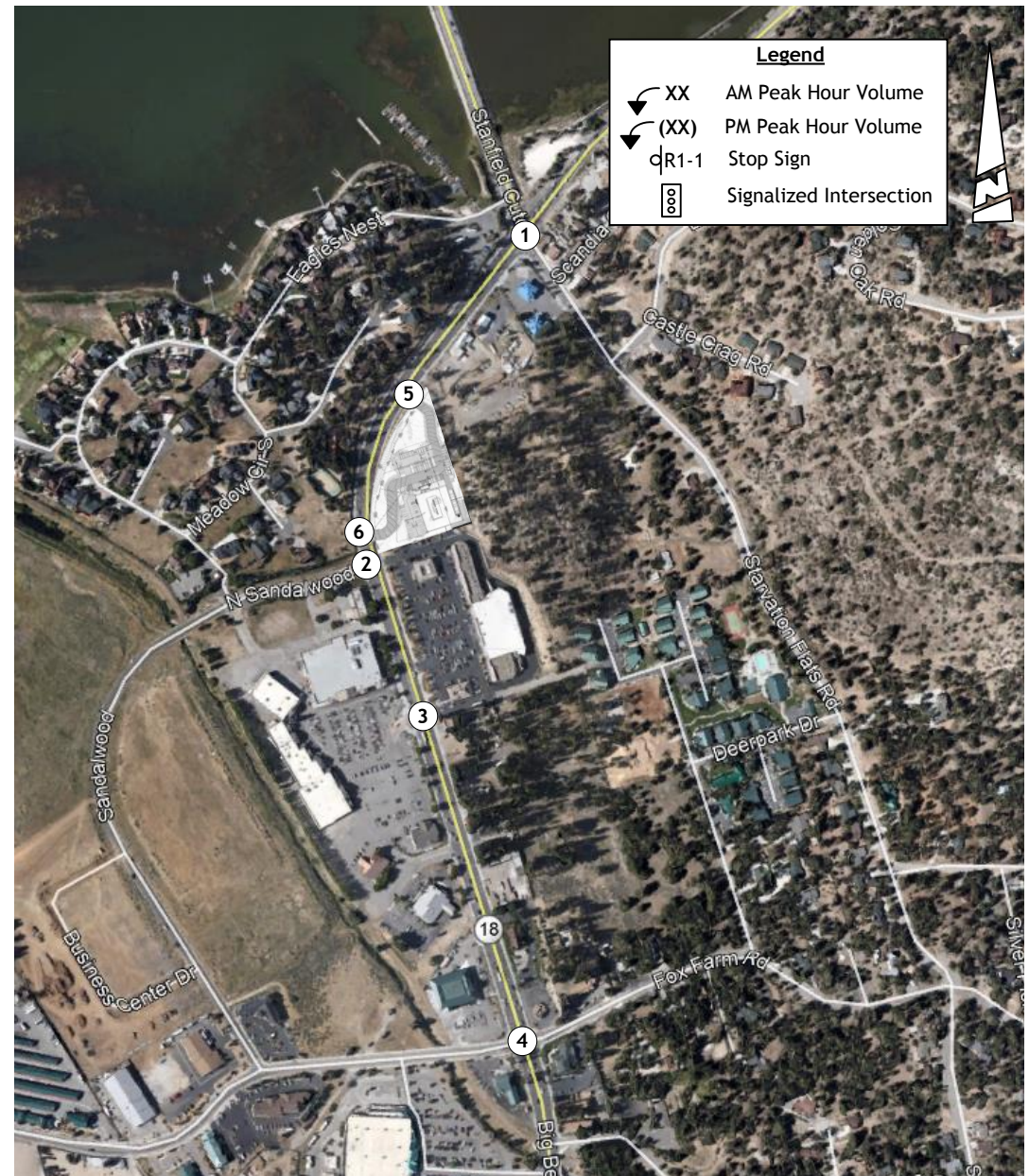
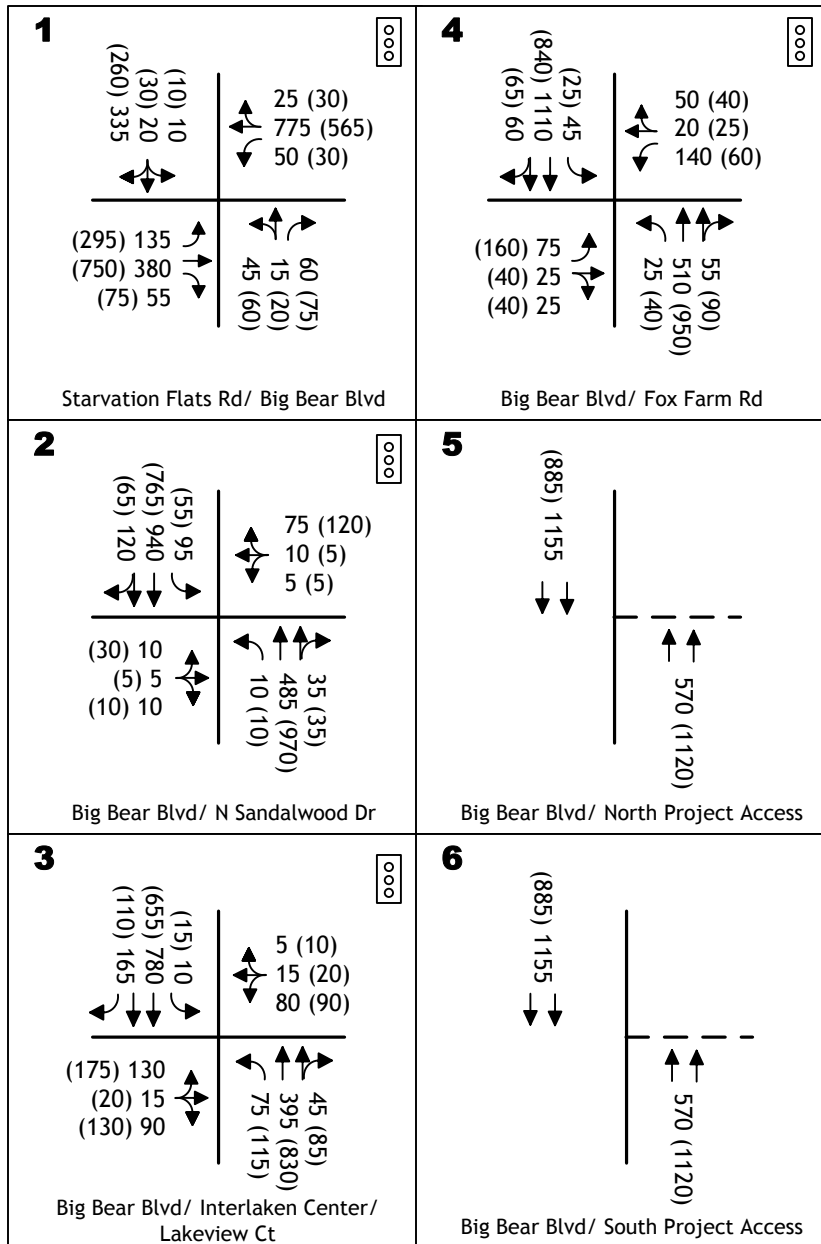


TABLE 4 EXISTING PEAK HOUR 95 th % QUEUES							
#	Intersection	Lane	Storage (feet)	AM Peak Hour		PM Peak Hour	
				Volume (vph)	95 th % Queue (feet)	Volume (vph)	95 th % Queue (feet)
1	Big Bear Blvd / Stanfield Cut-off Road	EB left	140 ¹	135	190	295	320
		WB left	70	50	95	30	75
		NB	-	120	145	155	170
		SB left+thru	60	30	65	40	65
3	Big Bear Blvd / Interlaken SC	NB left	110 ¹	75	85	115	140
		SB left	150 ¹	10	30	15	45
4	Big Bear Blvd / Fox Farm Rd	NB left	60 ¹	25	45	40	65
		SB left	90 ¹	45	95	25	55
		EB left	50	75	70	165	85
		WB left	50	140	80	60	65

¹ turn lane is followed by a TWLT lane.
BOLD is 95th % queue that exceeds storage by 20 feet or more

Traffic Signal Warrants. The volume of peak hour traffic occurring at the one unsignalized N. Sandalwood Drive intersection on Big Bear Blvd was compared to traffic signal warrants contained in the Manual of Uniform Traffic Control Devices (MUTCD Warrant 3) to determine whether a traffic signal may already be justified. The MUTCD includes volume criteria for both Urban (<40 mph and >10,000 population) and Rural (>40 mph < 10,000 population). Based on the current speed limit, urban are applicable on Big Bear Blvd.

Current traffic volumes at the Big Bear Blvd / N. Sandalwood Drive intersection reach the level that would satisfy Warrant 3 in the p.m. peak hour. However, while the westbound approach carries volumes that reach the minimum minor approach requirements, more than 90% of that approach volume turns right. Right turns do not typically require signalization, as evidenced by the LOS C condition on that approach. In addition, measured centerline to centerline, the N. Sandalwood Drive intersection is only about 580 feet from the signalized intersection at the Interlaken SC access. This distance falls below the minimum typically employed by Caltrans when considering new traffic signals on state highways.

In addition, *Caltrans Policy Directive 13-02* governs policy for the selection of traffic control devices at locations on state highways where it may be necessary to stop traffic on the state highway. Under current Caltrans guidelines a roundabout intersection is the preferred traffic control for locations where it is determined that mainline traffic must be controlled. This directive requires that Caltrans consider the relative merits of alternative traffic controls when it

becomes necessary to stop traffic on state highways, and all-way stops, traffic signals and roundabouts are to be considered. The policy directive requires preparation of an *Intersection Control Evaluation (ICE)* to determine the preferred traffic control.

Based on these considerations a traffic signal is not currently recommended.

Alternative Transportation Modes

The section which follows describes existing and planned facilities for pedestrians, bicyclists and transit riders in the area of the proposed project.

Pedestrians. Sidewalks exist along both sides of Big Bear Blvd. The sidewalk does not continue east or north of the Stanfield Cut-off Road intersection. Crosswalks are striped across the signalized Big Bear Blvd intersections, and ramps are provided.

Bicycles. The San Bernardino County Non-Motorized Transportation Plan¹, was last updated in June 2018. <https://www.gosbcta.com/wp-content/uploads/2019/10/Non-Motorized-Transportation-Plan-.pdf>. The plan describes existing and planned bicycle facilities in the City of Big Bear Lake. Facilities in the study area are noted in Table 5.

TABLE 5 BICYCLE FACILITIES			
Street	From	To	Designation
<i>Existing</i>			
Sandalwood Dr	Fox Farm Rd	SR 18	Class II
SR 18 Big Bear Blvd	Stanfield Cut-off	Pain Ct	Class II
<i>Proposed</i>			
Fox Farm Road	Sandalwood Dr	E. City Limits	Class II
Fox Farm Road- Swan Dr	Marina Point Dr	Sandalwood Dr	Class II
SR 18 Big Bear Blvd	Division Dr	Shay Rd	Class II
SR 18 Big Bear Blvd	Stanfield Cut-off	Division Dr	Class II
<i>Priority Improvements</i>			
SR 18 Big Bear Blvd	Stanfield Cut-off	Division Dr	Class II
Stanfield Marsh Trail	SR 18 Big Bear Blvd	SR 18 / Northshore Dr	Class I

¹ San Bernardino County Non-Motorized Transportation Plan, SBCTA, June 2018

Transit. Within San Bernardino County's mountain communities, the Mountain Transit provides fixed route services as well as off-the-mountain fixed routes to the City of San Bernardino. <https://mountaintransit.org/> The project vicinity is currently serviced from the Mountain Transit Transfer Point at Fox Farm Road. Big Bear Route 1 provides service on one-hour headways through the City of Big Bear Lake from 5:30 a.m. to 5:30 p.m. Big Bear Route 3 connects the Village with Big Bear City on one-hour headways from 8:20 a.m. to 3:20 p.m. Big Bear OTM follows Big Bear Blvd and continues to the Northshore on Stanfield Cut-off Road. The route makes two runs daily in each direction leaving at 6:30 a.m. and 4:30 p.m. and returning at 9:55 a.m. and 8:05 p.m. Big Bear Route 11 links the Transfer Station with Big Bear City, Woodlands and Erwin Lake Bear from 5:30 a.m. to 5:30 p.m.

Bus shelters are provided on both sides of Big Bear Blvd between the project site and Stanfield City-off Road and on the west side of Big Bear Blvd in the area south of the Interlaken SSC access.

PROJECT CHARACTERISTICS

Project Use / Access Characteristics

The Grocery Outlet Store project is an 18,000 sf retail store that will cater to residents / visitors of Big Bear Lake and the surrounding area. The site is located on the east side of Big Bear Blvd in the area just west of the Stanfield Cut-off. The site plan indicates that the project would have two full access driveways on Big Bear Blvd.

Trip Generation Rates. There are two ITE trip generation land use categories to be considered for this use:

- Code 850 Supermarket
- Code 854 Discount Supermarket

Information regarding the characteristics of the stores within the trip generation surveys conducted for these two land use categories were assembled from data in the Trip Generation Manual (appendix). As indicated in Table 6, the range of store sizes within each category is similar, but the average Discount Supermarket was slightly larger. Review of the plotted data, however, reveals that the Discount Supermarket surveys included many 15 ksf to 25 ksf stores. Based on the size of the stores considered, either category could be employed for this analysis.

TABLE 6 SUPERMARKET AND DISCOUNT SUPERMARKET CHARACTERISTICS ¹				
Code	Land Use	PM Peak Hour		
		Studies	Store Size (ksf)	
			Range	Average
850	Supermarket	73	15 – 145	55
854	Discount Supermarket	23	15 - 140	66
¹ ITE Trip Generation Manual, 10 th Edition				

Table 7 presents trip generation rates published for the two land use categories. Review of the average rates indicates that those associated with Discount Supermarkets are somewhat lower than Supermarket rates.

For this analysis use of the Supermarket's average rates were used. As noted in Table 7, these rates indicate that the proposed project could generate 1,922 daily trips, with 69 trips in the a.m. peak hour and 166 trips in the p.m. peak hour.

Pass-by Trip Assumptions. A portion of the trips associated with retail uses is typically drawn from the stream of traffic passing the site as customers make a stop as part of a trip made for

another purpose. The ITE Trip Generation Handbook contains “pass-by trip” information for many retail uses, including Supermarkets (attached). However, no rates are published for Discount Supermarkets. In the p.m. peak hour the average pass-by trip rate for Supermarkets is 36%, and this rate has been used for the proposed project. No pass-by trips have been in the a.m. peak hour due to the project’s low trip generation at that time, and on a daily basis the p.m. rate has also been used.

Caltrans District 8 direction suggests that absent other information a default of 15% pass-by trips may be employed. It is reasonable to expect that the default value will be exceeded in this case because SR 18 is a major regional facility. Many shoppers will simply stop at the grocery outlets store on their way home from work or as part of trips to Big Bear Lake Village / Resort. For this analysis, no pass-by trips have been assumed in the a.m. peak hour, the ITE pass-by rates have been assumed in the p.m. peak hour and on a daily basis.

Primary Trip Distribution. The distribution of trips made specifically to visit the proposed project will likely be based on the location of residences within this store’s trade area. The following factors were considered in identifying the probable trade area for this store:

- The closest existing Grocery Outlet Stores are in Beaumont, San Bernardino, and Rialto Yucca Valley more than 30 miles away.
- The unincorporated community of Big Bear City has a larger population than the City of Big Bear Lake and is located east of the project site.
- The small communities of Fawn Skin and Minnelusa are located on the north shore of Big Bear Lake on SR 38.
- The proposed project lies on the eastern edge of the City of Big Bear Lake.

Based on these factors and review of the locations of current residences and visitor lodging in the City of Big Bear Lake, it has been assumed that the distribution of primary project trips would be split east and west. The resulting distribution is noted in Table 8.

Pass-by Trip Distribution. Typically, pass-by trips are assumed to be made by customers who turn directly into and out of the project from the adjoining street. In this case, the proposed project is immediately adjacent to Big Bear Blvd (SR 18). It is assumed that pass-by traffic would be drawn from the flow in each direction on Big Bear Blvd and that the total pass-by share will be split in proportion to the volume of traffic in each direction.

**TABLE 7
TRIP GENERATION RATES / FORECASTS
FOR BIG BEAR LAKE GROCERY OUTLET STORE PROJECT**

ITE Code	Description	Rate Type	Quantity	Trips per Unit						
				Daily (R ²)	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
854	Discount Supermarket ¹	Average	ksf	90.87	58%	42%	2.53	50%	50%	8.38
850	Supermarket ¹	Average	ksf	106.78	60%	40%	3.82	51%	49%	9.24
	Grocery Outlet Store in Big Bear Lake		18.0 ksf	1,922	41	28	69	85	81	166
	Pass-by (36% daily 36% p.m.) ²			<692>	0	0	0	<30>	<30>	<60>
	Net New Trips			1,240	41	28	59	55	51	106

¹ ITE Trip Generation Manual, 10th Edition

² ITE Trip Generation Handbook, 3rd Edition.

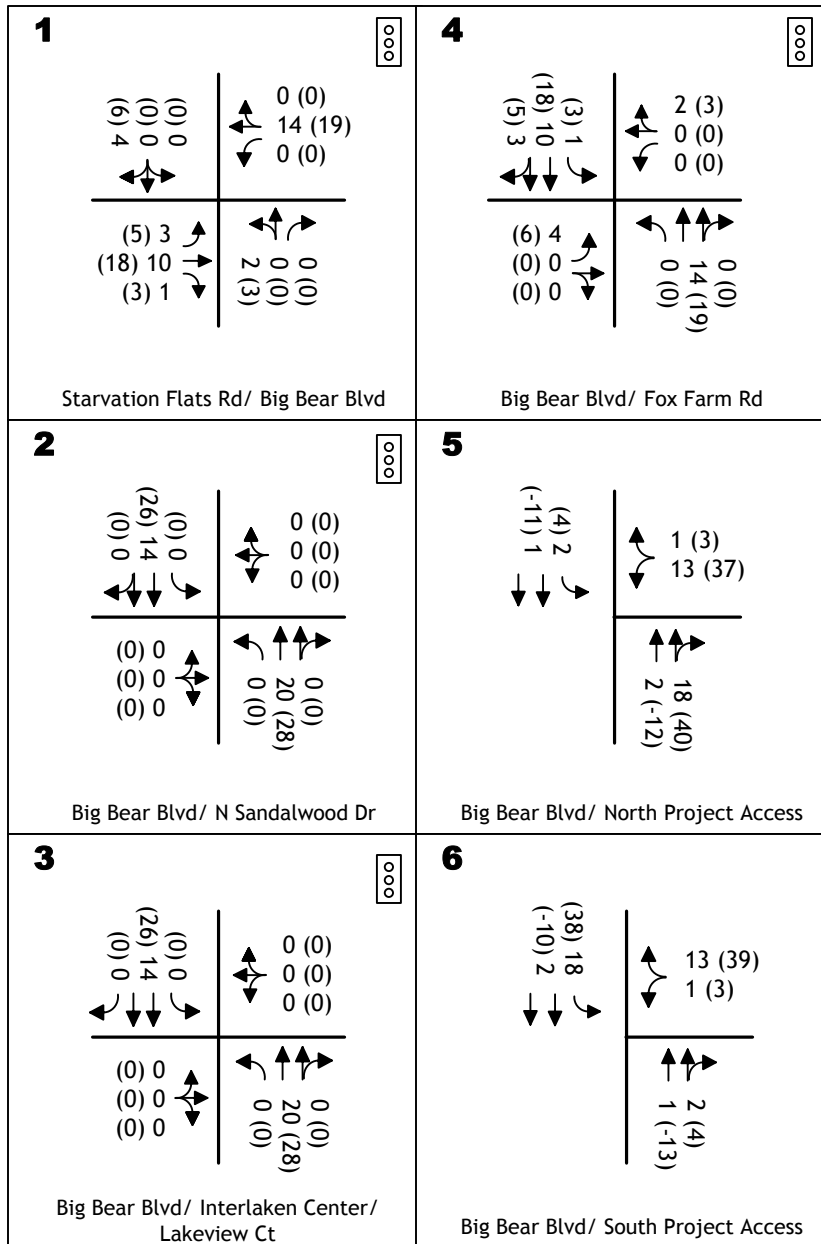
Table 5.13, Data use for Analysis

TABLE 8 PRIMARY TRIP DISTRIBUTION ASSUMPTIONS			
Direction	Location	Route	Percent of all Primary Trips
North	North Shore of Big Bear Lake	Stanfield Cut-off Rd	10%
East	Big Bear City	SR 18 east of Stanfield Cut-off Rd	35%
	East City of Big Bear Lake	Starvation Flats Road	5%
		Fox Farm Road	5%
West	City of Big Bear Lake	Fox Farm Road	10%
South	City of Big Bear Lake and Big Bear City	SR 18 to Moonridge Road	35%
Total			100%

Trip Assignment. Figure 4 illustrates “project only” trips through study area intersections and at project driveways under the distribution percentages noted above with full access as proposed. The assignment includes pass-by trips drawn from and returned to Big Bear Blvd.

Project Improvements. The project would:

- construct two new access driveways on Big Bear Blvd (SR 18) to Caltrans standards.
- close the existing driveways.
- construct frontage improvements on Big Bear Blvd as required by the City of Big Bear Lake (to be determined).
- grade the site to provide sight distance from each driveway satisfying Caltrans standards.



EXISTING PLUS PROJECT CONDITIONS

This analysis scenario assumes that the Grocery Outlet Store is fully occupied and operating as proposed.

Traffic Volumes

Existing Plus Project Traffic Volumes. Figure 5 presents resulting a.m. and p.m. peak hour volumes assuming the Grocery Outlet Store project is built out with access as proposed.

Traffic Operations

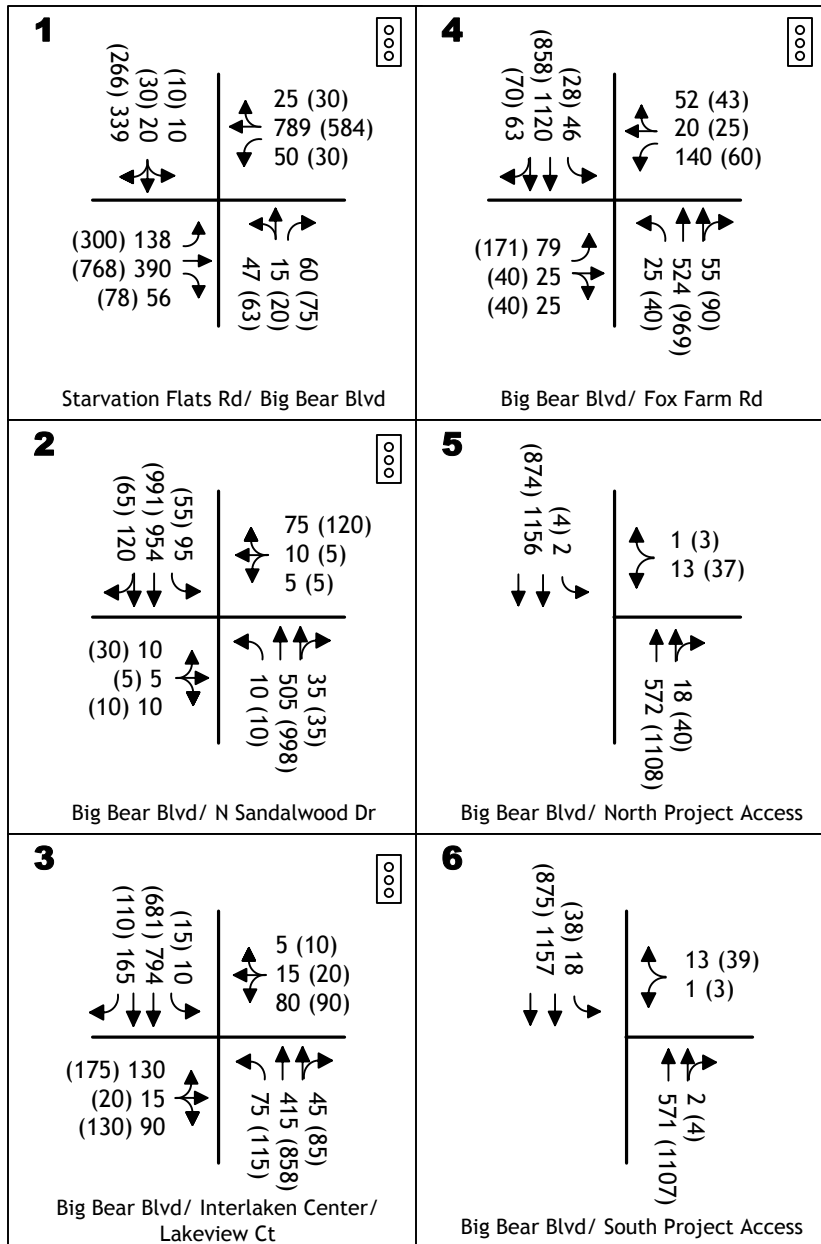
Intersection Level of Service. Table 9 presents the a.m. and p.m. peak hour Level of Service at each study intersection under Existing Plus Project conditions with access as proposed. These results assume no change to the traffic signal timing assumed for existing conditions. As indicated, with two exceptions, the Level of Service at all study area intersections will remain within the minimum LOS D threshold.

The **Big Bear Blvd (SR 18) / Stanfield Cut-off Road intersection** will continue to operate at LOS E in the a.m. peak hour. The project identified in the 2016 RTP/SCS to widen SR 18 east of the intersection remains needed.

On the eastbound project approach to the **Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection** the p.m. peak hour Level of Service is projected to move from LOS D to LOS E with the project. While LOS E exceeds the City's LOS D standard, the proposed project would not increase the side street approach traffic volumes at this location, and the assessment of the need for a traffic signal presented under Existing conditions remains valid. A traffic signal is not recommended.

95th Percentile Queues. Table 10 presents the volume of traffic making left turns at intersections and driveways on Big Bear Blvd as well as the length of the 95th percentile queue estimated from SimTraffic simulation. As indicated, the addition of project traffic does not result in any additional locations where queues in designated left turn lanes exceed the available storage.

Traffic Signal Warrants. The addition of project traffic does not change conclusions regarding the need for a traffic signal at any un-signalized location. No traffic signals are recommended.



**TABLE 9
YEAR 2020 PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE**

#	Intersection	Control	AM Peak Hour				PM Peak Hour			
			Existing		Ex Plus Project		Existing		Ex Plus Project	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Big Bear Blvd / Stanfield Cut-off Rd	Signal	63.8	E	67.5	E	37.4	D	40.1	D
5	Big Bear Blvd / North Access Westbound approach	SSS	-	-	11.3	B	-	-	15.2	B
6	Big Bear Blvd / South Access Westbound approach	SSS	-	-	18.4	C	-	-	29.2	D
2	Big Bear Blvd / N. Sandalwood Dr Eastbound approach	SSS	32.2	D	33.0	D	33.8	D	35.2	E
	Westbound approach		16.9	C	17.3	C	18.2	C	19.4	C
3	Big Bear Blvd / Interlaken SC / Lakeview Ctr	Signal	14.7	B	14.8	B	16.2	B	16.4	B
4	Big Bear Blvd / Fox Farm Road	Signal	16.1	B	16.3	B	14.6	B	15.1	B
SSS is Side Street Stop control BOLD values are Levels of Service in excess of LOS C.										

TABLE 10
2020 PLUS PROJECT PEAK HOUR 95th % QUEUES

#	Intersection	Lane	Storage (feet)	AM Peak Hour				PM Peak Hour			
				Existing		Existing Plus Project		Existing		Existing Plus Project	
				Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)
1	Big Bear Blvd / Stanfield Cut-off Rd	EB left	140 ¹	135	190	138	185	295	320	300	370
		WB left	70	50	95	50	100	30	75	30	75
		NB	-	120	145	122	170	155	170	158	200
		SB left+thru	60	30	65	30	60	40	65	40	75
5	Big Bear Blvd / No Access	WB	220	-	-	14	35	-	-	42	70
6	Big Bear Blvd / So Access	WB	260	-	-	14	40	-	-	40	85
3	Big Bear Blvd / Interlaken SC	NB left	110 ¹	75	85	75	90	115	140	115	145
		SB left	150 ¹	10	30	10	30	15	45	15	50
4	Big Bear Blvd / Fox Farm Rd	NB left	60 ¹	25	45	25	50	40	65	40	80
		SB left	90 ¹	45	95	46	75	25	55	28	65
		EB left	50	75	70	79	75	165	85	171	85
		WB left	50	140	80	140	85	60	65	60	65

¹ turn lane is followed by a TWLT lane.

BOLD is 95th % queue that exceeds storage by 20 feet or more

Impacts to Alternative Transportation Modes

Pedestrians. The Grocery Outlet Store project could attract pedestrians from adjoining commercial areas or from neighborhoods near the site, although the exact number of pedestrians is unknown. Sidewalks already exist along the site, which is consistent with the frontage improvements that have been installed with other commercial development in Big Bear Lake. The signalized intersections on Big Bear Blvd include crosswalks, so access between the project and neighboring commercial businesses is available. Beyond Big Bear Blvd, the existing residential neighborhoods lack sidewalks, but expansion of dedicated pedestrian facilities into these areas is not planned and is beyond the responsibility of this project. The project's impact to pedestrian safety is not significant.

Bicycles. The project may be expected to attract bicyclists to the site. As noted in the Existing Setting discussion, Class II bicycle lanes already exist on the west side of Big Bear Blvd, and northbound Big Bear Blvd is marked and signed as a shared bicycle / motor vehicle area. There are no plans to widen SR 18 to create a northbound bike lane. Because bicycle facilities exist and the project does not interfere with the development of any planned facilities, the project's impact to bicycles is not significant.

Transit Service. Mountain Transit routes already pass by the site, and the transit shelters are found on both sides of Big Bear Blvd about 400 feet east of the northern driveway. The Grocery Outlet Store project could generate some new transit demand caused by employees and customers. However, this potential increased demand can be accommodated by current routes operating under the existing service headways, and no changes are justified nor recommended.

SHORT TERM FUTURE (YEAR 2021) TRAFFIC CONDITIONS

Overview

The impacts of the Grocery Outlet Store have been evaluated within the context of short-term future background conditions in the projects Opening Day Year 2021 that assume ambient background traffic growth as well as the additional traffic associated with occupancy of approved projects identified by the City of Big Bear Lake.

Ambient Growth Rate. To identify an applicable growth rate Year 2040 and 2012 traffic volume forecasts were obtained from the San Bernardino County Transportation Authority (SBCTA) regional travel demand forecasting model. That comparison indicated an increase of 25% over from 2012 to 2040 or 0.9 % annually. For this analysis it was conservatively assumed that Year 2020 traffic volumes will increase by 2.0% annually for one year to a 2021 opening day.

Approved Projects. The City of Big Bear identified projects to be included in the short-term analysis. All are west of the project in or near the Village. No traffic studies were prepared for those projects. Table 11 lists the project as well as their weekday a.m./p.m. peak hour trip generation forecasts based on applicable ITE rates.

TABLE 11 APPROVED PROJECTS IN BIG BEAR LAKE							
Description	Quantity	Trip Generation					
		AM Peak Hour			PM Peak Hour		
		in	out	total	in	out	total
Bear Mountain Deck Expansion	n.a.	-	-	-	-	-	-
Marina Resort Expansion - restaurant	3.0 ksf	1	1	2	16	8	24
The Club	49 units	11	5	16	9	11	20
40645 Village Remodel - complete	n.a.	0	0	0	0	0	0
40651 Village	3.2 ksf	2	1	3	6	6	12
40760 Village	1.3 ksf	1	0	1	2	3	5
40696 Village - restaurant	2.3 ksf	1	0	1	12	6	18
Tract 18580	23 du	4	13	17	14	9	23
Alpine Mountain Coaster	6 acres	1	0	1	14	10	24
The Barn at Big Bear Wedding Venue	9.2 ksf	11	15	16	10	11	21
Big Bear Alpine Zoo	10 acres	2	0	2	24	26	40
Total		34	35	59	107	90	187

Not all of the trips generated by these uses would use study area roads, as most of this traffic will have origin or destination in areas west of the project. For this analysis it has been assumed that 25% of the identified trips travel through the study area on SR 18.

Traffic Volumes

Background Short Term future (2021) traffic volumes representing a 2.0% annual increase in 2020 volumes plus the trips associated with approved projects are presented in Figure 6. The trips identified previously for the Grocery Outlet Store were superimposed onto those volumes, and the resulting Year 2021 plus Grocery Outlet Store volumes are shown in Figure 7.

Traffic Operations

No Project Conditions. Table 12 compares short term future *Levels of Service* at study intersections with and without the proposed project. As indicated, without the Grocery Outlet Store two locations will operate with a Level of Service that exceeds the LOS D standard.

The Big Bear Blvd (SR 18) / Stanfield Cut-off Road intersection is projected to continue to operate at LOS E in the a.m. peak hour. The same improvement described earlier remains needed.

The eastbound approach to the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection is projected to operate at LOS E in the p.m. peak hour. Either installing a traffic signal, reconstructing the intersection to provide a roundabout, prohibiting outbound left turns or widening the approach to provide an auxiliary turn lane would be needed to provide Level of Service satisfy the minimum LOS D standard on the approach.

The City's list of approved projects does not identify new development projects in the commercial area west of SR 18 that might be expected to directly to increase traffic on the eastbound approach. The volume of traffic on the eastbound approach does not reach the level that satisfies the minimum requirement under Warrant 3. As a result, satisfaction of the signal warrant remains linked to the westbound approach where nearly all traffic turns right. Thus, the same considerations noted earlier suggest that a traffic signal not be installed.

Table 13 presents the volume of traffic making left turns at intersections and driveways on Big Bear Blvd as well as the length of the *95th percentile queues* estimated from SimTraffic simulation. As indicated, under the background Year 2021 condition six locations have queues in designated left turn lanes exceeding the available storage.

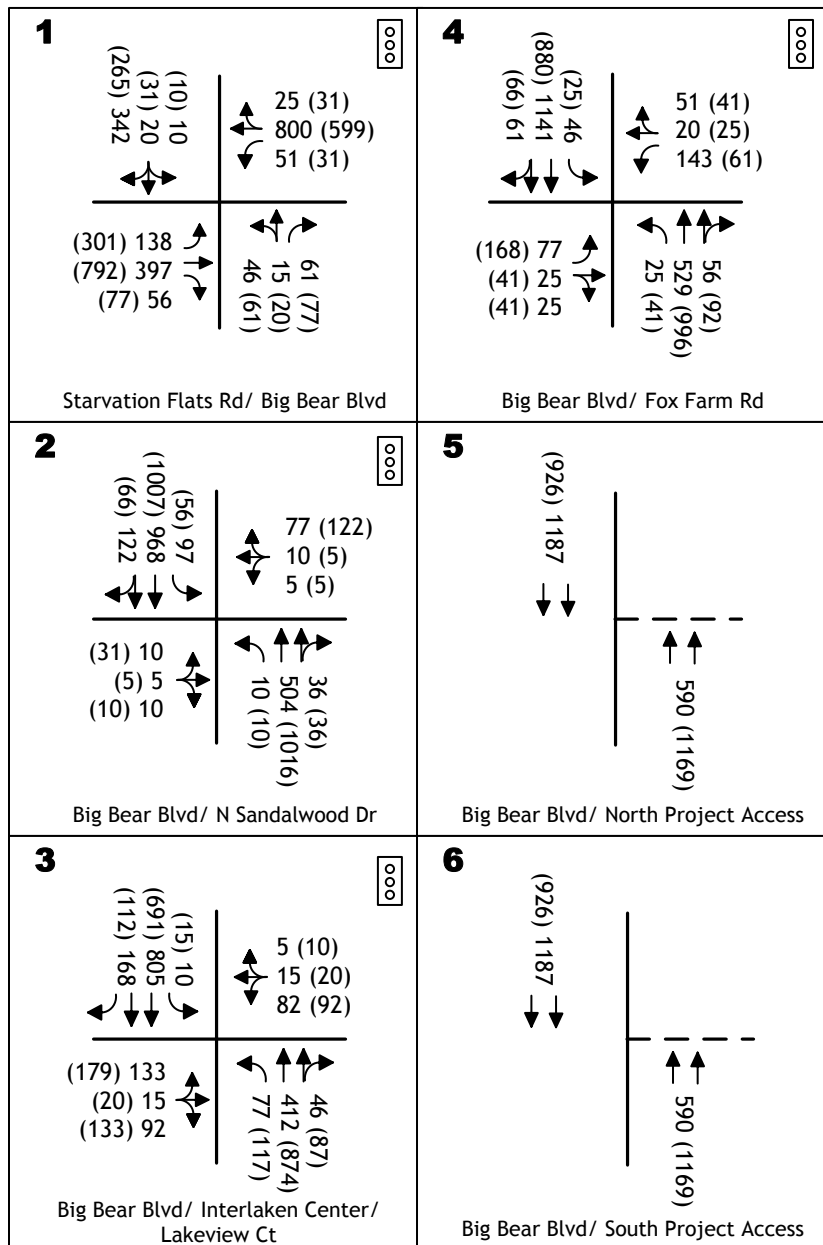
The addition of background traffic under Year 2012 conditions does not change conclusions regarding the need for traffic signals based on Peak Hour *Traffic Signal Warrants*. No traffic signal is recommended.

Short Term (Year 2021) Plus Grocery Outlet Store Impacts. As noted in Table 12, the addition of trips associated with the Grocery Outlet Store will incrementally lengthen delays at off-site intersections, but the **Level of Service** does not change. Again, the same exceptions to the LOS D standard will exist.

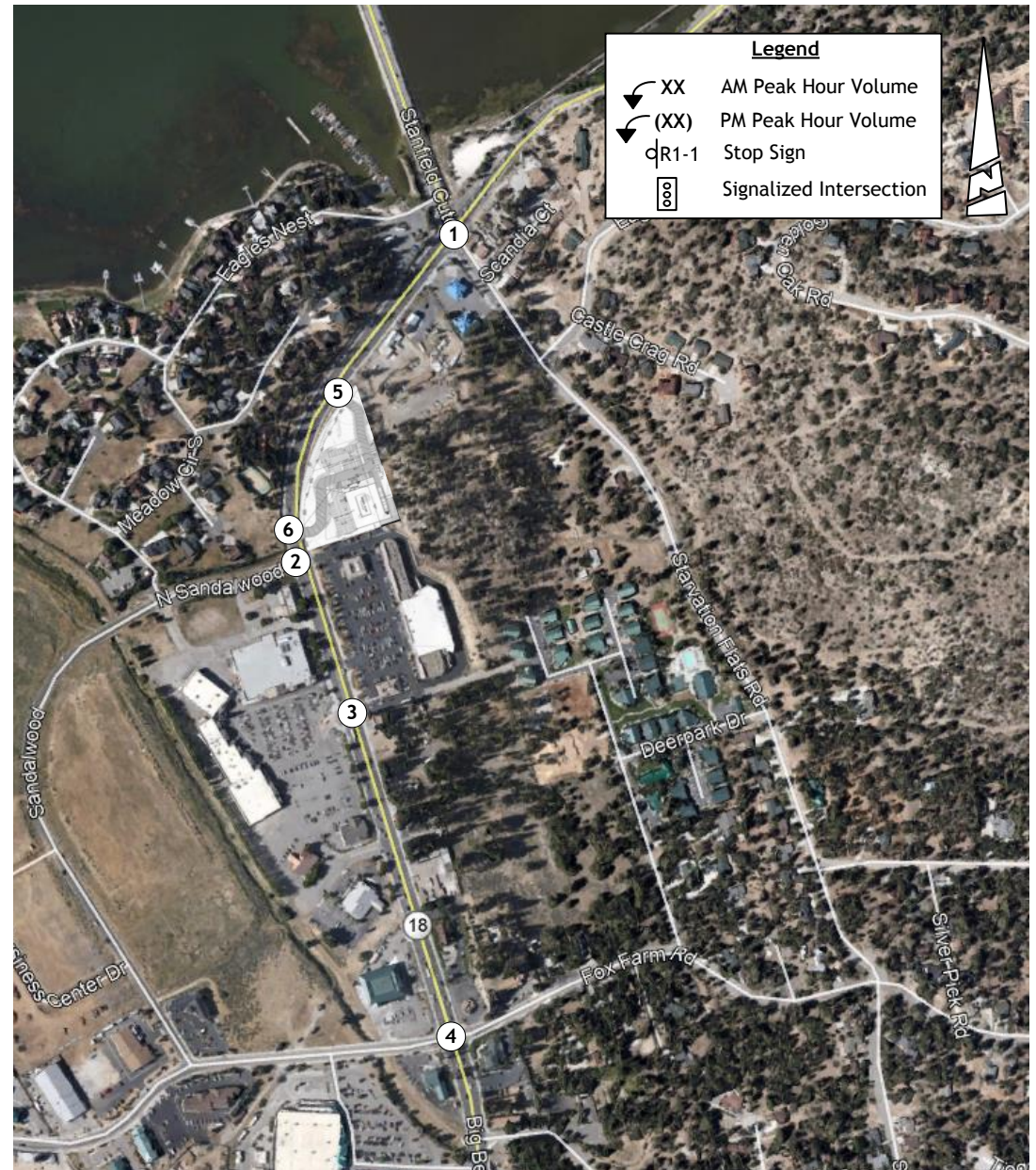
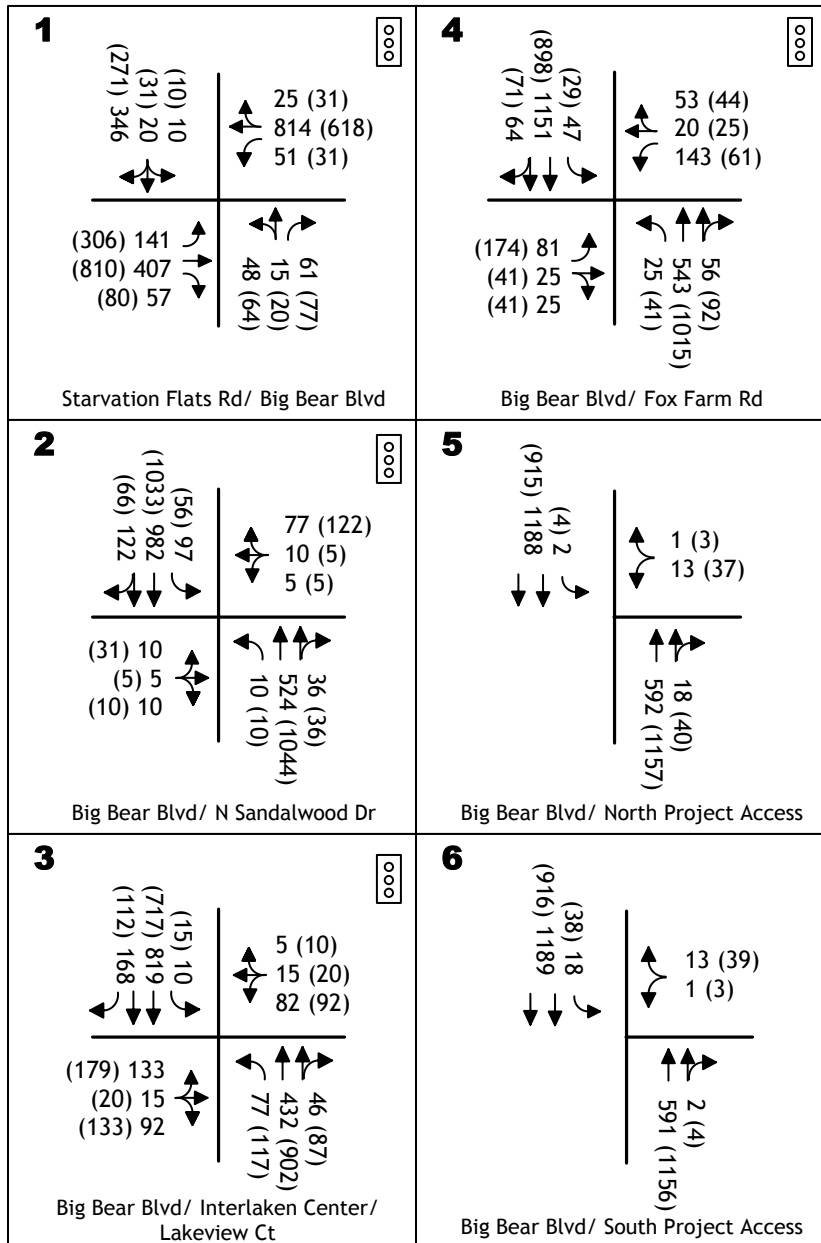
While this Level of Service on the eastbound approach to the Big Bear Blvd (SR 18) / N. Sandalwood Drive exceeds the City's minimum LOS standard, the same issues and considerations made for the Year 2021 No Project condition remain. No improvements are recommended.

Table 13 presents the volume of traffic making left turns at intersections and driveways on Big Bear Blvd as well as the length of the **95th Percentile Queues** estimated from SimTraffic simulation. As indicated, the addition of project traffic to the background Year 2021 condition does not result in queues in designated left turn lanes exceeding the available storage at any additional locations.

The addition of project traffic does not change conclusions regarding the need for traffic signals based on peak hour **Traffic Signal Warrants**. The volume of traffic at the project access driveways remains far below the minimum requirement. No traffic signal is recommended.



EXISTING PLUS APPROVED PROJECTS TRAFFIC VOLUMES AND LANE CONFIGURATIONS



EPAP PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

**TABLE 12
YEAR 2021 SHORT TERM FUTURE PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE**

#	Intersection	Control	AM Peak Hour				PM Peak Hour			
			Year 2021		Year 2021 Plus Project		Year 2021		Year 2021 Plus Project	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Big Bear Blvd / Stanfield Cut-off Rd	Signal	69.9	E	74.1	E	42.3	D	46.4	D
5	Big Bear Blvd / North Access Westbound approach	SSS	-	-	11.4	B	-	-	15.7	B
6	Big Bear Blvd / South Access Westbound approach	SSS	-	-	19.0	C	-	-	31.3	D
2	Big Bear Blvd / N. Sandalwood Dr Eastbound approach	SSS	33.9	D	34.8	D	48.5	E	51.2	F
	Westbound approach		17.4	C	17.8	C	19.9	C	20.4	C
3	Big Bear Blvd / Interlaken SC / Lakeview Ctr	Signal	15.2	B	15.3	B	16.8	B	17.0	B
4	Big Bear Blvd / Fox Farm Road	Signal	16.6	B	16.8	B	15.0	B	15.5	B
SSS is Side Street Stop control BOLD values are Levels of Service in excess of LOS C.										

TABLE 13
YEAR 2021 SHORT TERM FUTURE PLUS PROJECT PEAK HOUR 95th % QUEUES

#	Intersection	Lane	Storage (feet)	AM Peak Hour				PM Peak Hour			
				Year 2021		Year 2021 Plus Project		Year 2021		Year 2021 Plus Project	
				Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)	Volume	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)
1	Big Bear Blvd / Stanfield Cut-off Road	EB left	140 ¹	138	175	141	195	301	345	300	375
		WB left	70	51	90	51	95	31	75	30	80
		NB	-	122	165	124	155	158	185	158	200
		SB left+thru	60	30	65	30	60	41	65	40	80
5	Big Bear Blvd / No Access	WB	220	-	-	14	35	-	-	42	80
6	Big Bear Blvd / So Access	WB	260	-	-	14	40	-	-	40	100
3	Big Bear Blvd / Interlaken SC	NB left	110 ¹	77	85	77	115	117	135	115	165
		SB left	150 ¹	10	30	10	30	15	40	15	40
4	Big Bear Blvd / Fox Farm Rd	NB left	60 ¹	25	45	25	45	41	85	40	75
		SB left	90 ¹	46	85	47	85	25	55	28	55
		EB left	50	77	70	81	70	168	90	171	85
		WB left	50	143	85	143	85	61	65	60	65

¹ turn lane is followed by a TWLT lane.

BOLD is 95th % queue that exceeds storage by 20 feet or more

LONG TERM YEAR 2040 CONDITIONS

Overview

The cumulative Year 2040 analysis presented herein is intended to evaluate the relative cumulative impact of the project within the context of other foreseeable development in the area of Big Bear Lake and regional traffic growth as well as the creation of circulation system improvements that will be installed over the next twenty years.

Approach. Background traffic conditions occurring in the Year 2040 were identified based on traffic volume forecasts provided by the SBCTA. Daily and a.m. / p.m. peak hour traffic volume plots created by the agency's regional traffic demand forecasting model (SBTAM) were obtained for baseline (Year 2012) and future (Year 2040) conditions.

Review of the traffic volumes forecast indicated that the modeled daily traffic volumes on Big Bear Blvd in this area are expected to increase by about 25% over the planning horizon. For this analysis a.m. and p.m. peak hour volume forecasts on the approaches to intersection included in the model were reviewed, and Year 2012 and Year 2040 volumes were compared to create individual approach growth rates. The traffic model is relatively coarse in this area and not all study area roads are represented. These rates were then annualized over 20 years and applied to the 2020 peak hour volumes using the "Furness" techniques from the Transportation Research Board's (TRB) NCHRP Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. These preliminary results were then rounded and balanced from intersection to intersection along Big Bear Blvd. Figure 8 identifies the resulting Year 2040 peak hour traffic volume projections for the No Project conditions.

Circulation System Improvements. The 2016 San Bernardino County RTP/SCS identifies a project to widen SR 18 to four lanes from the western city limit to the eastern city limit. This project would provide a second travel lane in each direction east of the Stanfield Cut-off Road intersection. For this analysis this work is assumed to be completed by 2040.

Year 2040 No Project Peak Hour Conditions

Peak Hour Level of Service. Long Term cumulative intersection Levels of Service are noted in Table 14. As shown, if the Grocery Outlet Store does not proceed then with one exception all locations will operate with Level of Service that satisfy the City of Big Bear Lake minimum LOS C standard under cumulative long-term conditions.

The exception is the Big Bear Blvd / N. Sandalwood Drive intersection where both the eastbound and westbound approaches are projected to operate at LOS F under long term conditions. Because the SBCTA traffic model anticipates long term development in the area west of SR 18, both approaches carry traffic volumes that satisfy traffic signal warrants in the p.m. peak hour.

The same potential improvement alternatives noted earlier remain applicable under long term conditions. The distance from the N. Sandalwood Drive intersection to the Interlaken SC signal is only about 600 feet, which would be less than the planning level minimum of 1,000 feet

commonly employed by Caltrans. However, while the distance is not desirable, it could be possible to install a traffic signal at this location and coordinate the operation of signals along SR 18. While right of way would be needed and major roadway reconstruction would be involved, a roundabout might be constructed. Right of way would need to be acquired to widen the eastbound approach and provide an auxiliary lane, but similar work may not be feasible on the westbound approach and poor Level of Service would remain. While it may be physically possible to prohibit left turns onto SR 18 at this intersection, U-turns are not allowed at the signalized intersections on SR 18 north and south of Sandalwood Drive, and reconstruction at those locations to accommodate U-turns would be needed, if it is determined that features to limit left turns do not interfere with snow removal. It is reasonable to conclude that Caltrans District 8 would require that an Intersection Control Evaluation (ICE) be prepared to reach a decision. An ICE report would include preliminary engineering design and consider the feasibility, ROW needs and relative cost of alternatives.

95th Percentile Queues. Table 15 presents the volume of traffic making left turns at intersections and driveways on Big Bear Blvd as well as the length of the 95th percentile queue estimated from SimTraffic simulation under Year 2040 conditions. As indicated, the traffic volumes in Year 2040 without the project result in queues in designated left turn lanes exceeding the available storage at six locations.

Traffic Signal Warrants. The projected traffic volumes at the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection under background Year 2040 conditions satisfy peak hour warrants in the p.m. peak hour.

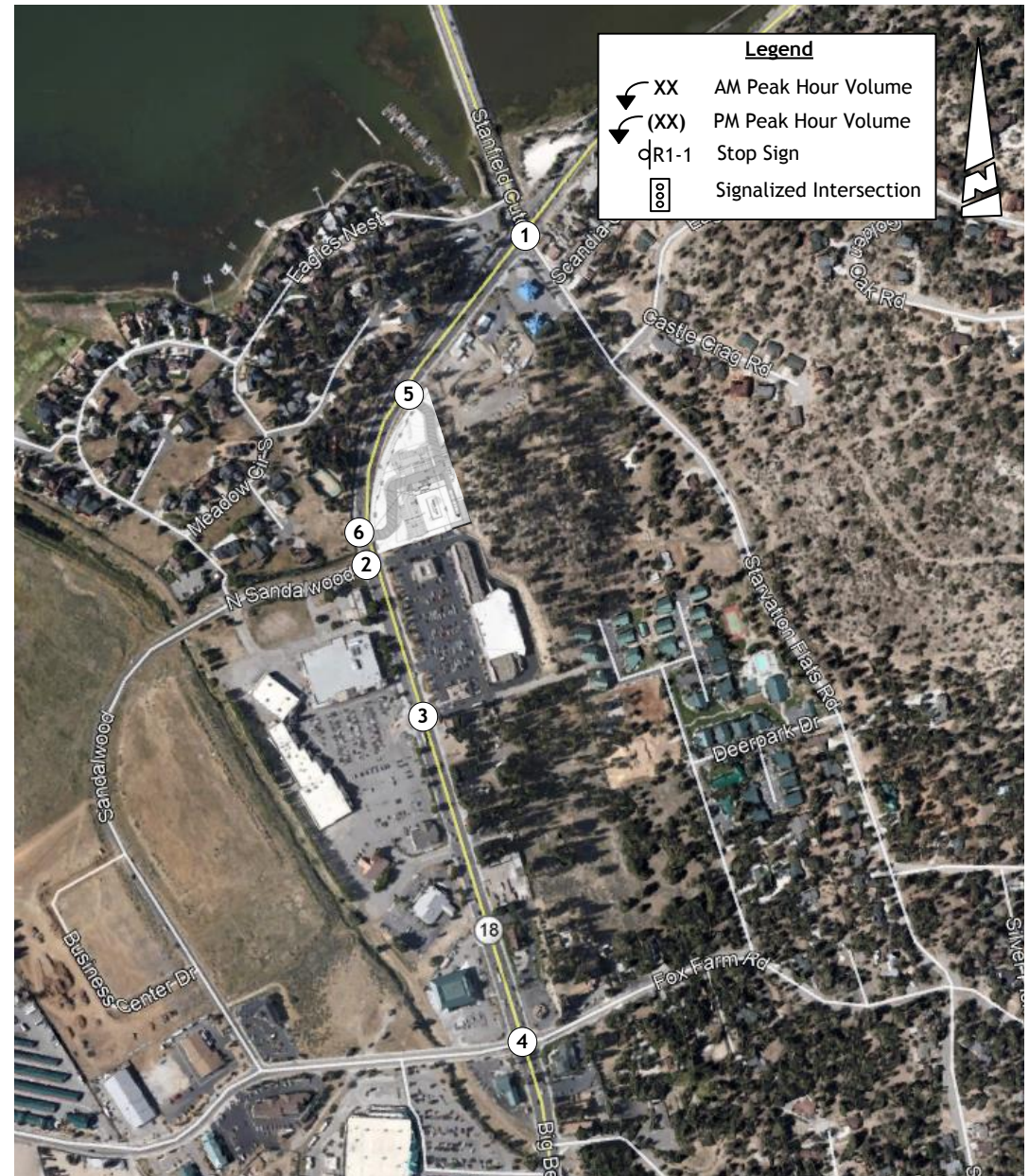
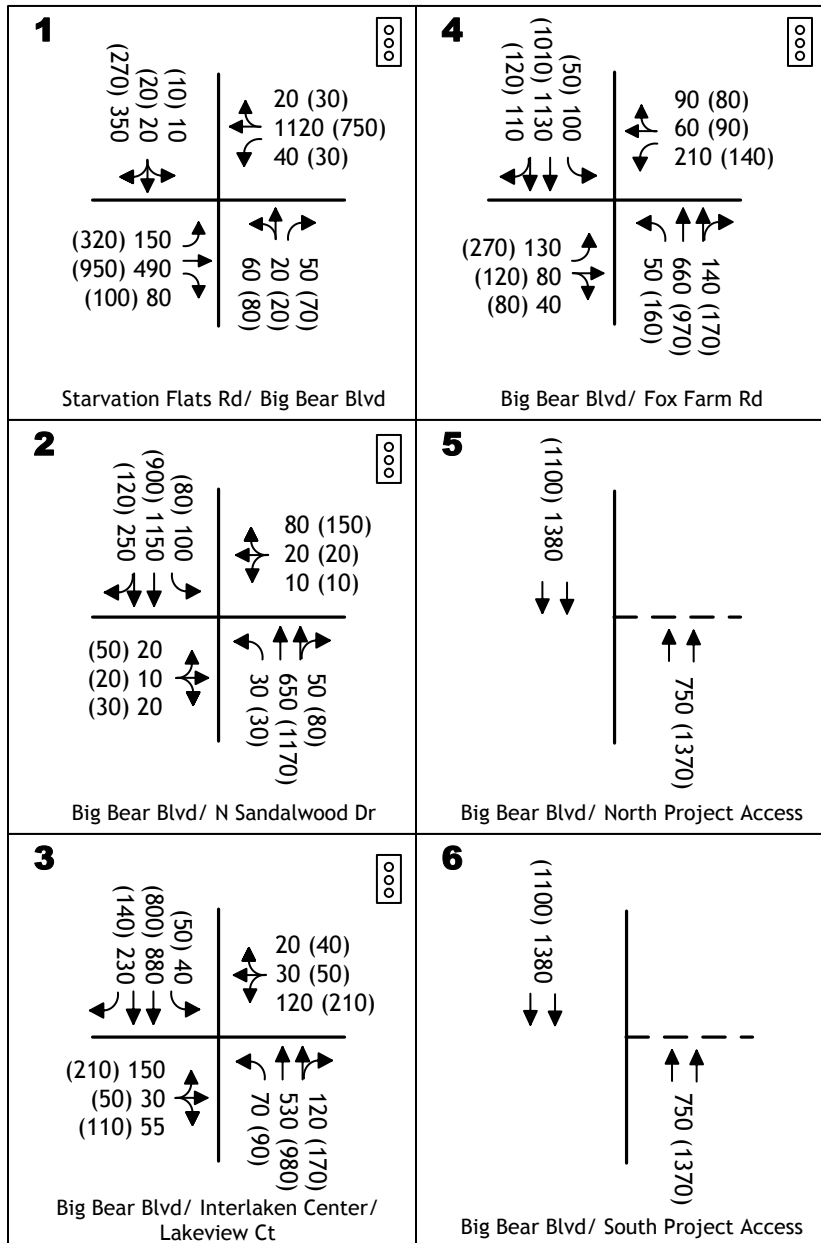
Year 2040 Plus Project Conditions

Intersection Levels of Service. As noted in Table 14, the same location is projected to operate with Level of Service that exceeds LOS D under long term cumulative conditions with the Grocery Outlet Store. The project's southern access would also operate at LOS E.

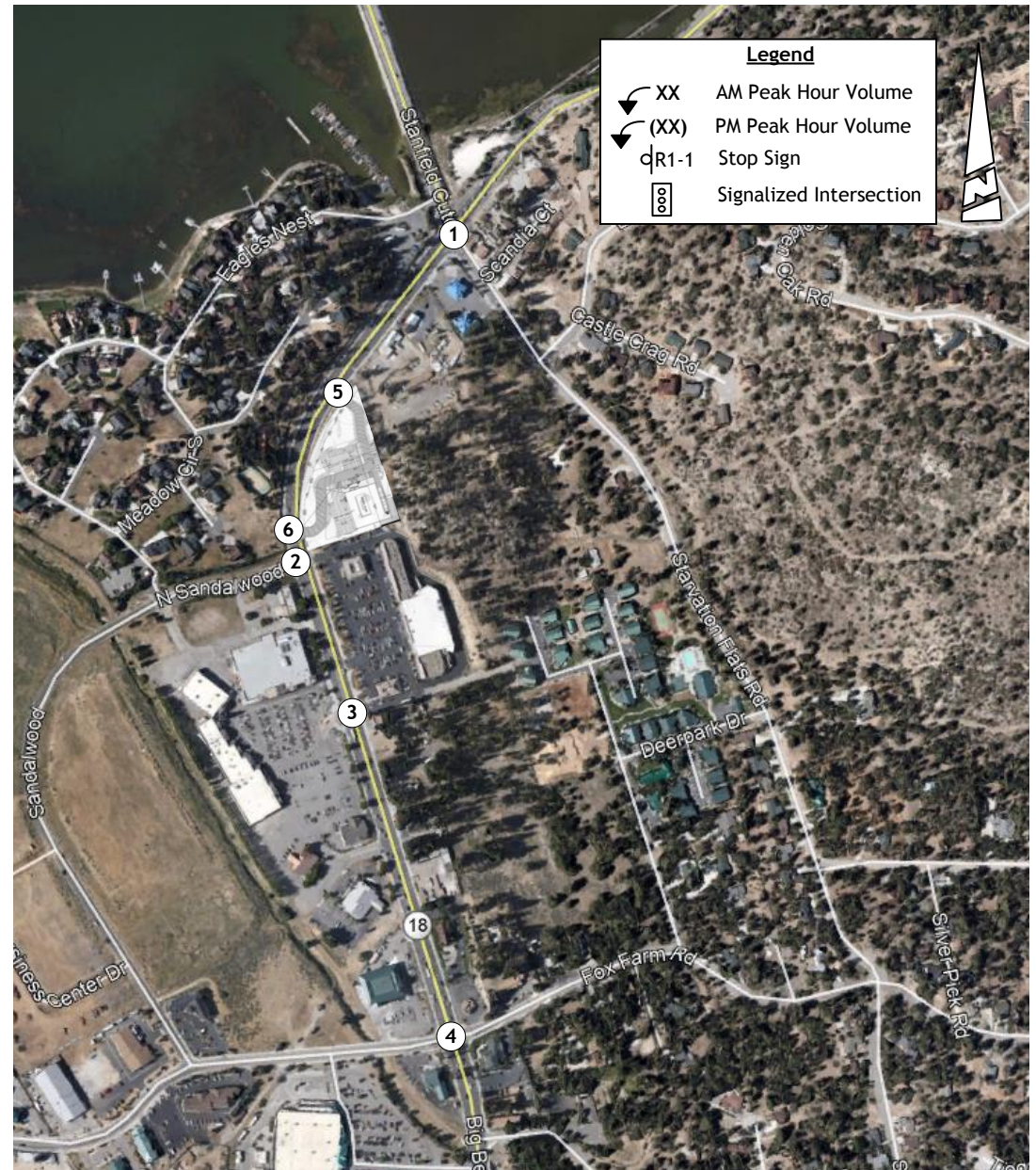
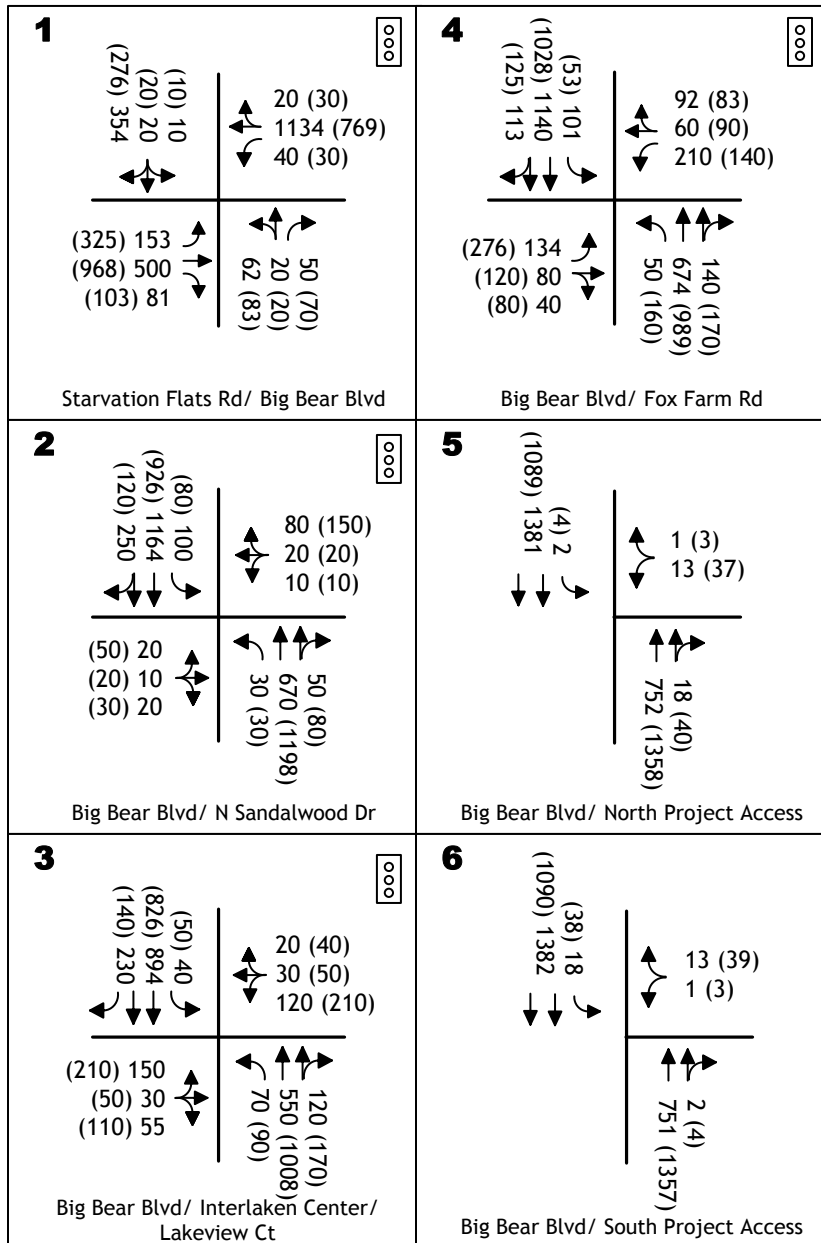
The conditions at the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection are exacerbated slightly by the addition of Grocery Outlet Store project traffic, but the issues identified with improvement options that were outlined under the background Year 2040 conditions are the same.

95th Percentile Queues. Table 15 presents the volume of traffic making left turns at intersections and driveways on Big Bear Blvd as well as the length of the 95th percentile queues estimated from SimTraffic simulation. As indicated, the addition of project traffic to the background Year 2040 condition does not result in queues in designated left turn lanes exceeding the available storage at any new locations.

Traffic Signal Warrants. The addition of project traffic does not change conclusions regarding the need for a traffic signal at the N. Sandalwood Drive intersection.



CUMULATIVE NO PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS



CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

TABLE 14
YEAR 2040 FUTURE PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

#	Intersection	Control	AM Peak Hour				PM Peak Hour			
			Year 2040		Year 2040 Plus Project		Year 2040		Year 2040 Plus Project	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Big Bear Blvd / Stanfield Cut-off Rd	Signal	41.7	D	43.4	D	30.9	C	32.5	C
5	Big Bear Blvd / North Access Westbound approach	SSS	-	-	12.5	B	-	-	18.2	C
6	Big Bear Blvd / South Access Westbound approach	SSS	-	-	23.0	C	-	-	42.7	E
2	Big Bear Blvd / N. Sandalwood Dr Eastbound approach	SSS	95.8	F	101.9	F	240.6	F	271.6	F
	Westbound approach		67.8	F	73.5	F	56.3	F	61.4	F
3	Big Bear Blvd / Interlaken SC / Lakeview Ctr	Signal	17.3	B	17.5	B	23.0	C	23.7	C
4	Big Bear Blvd / Fox Farm Road	Signal	23.6	C	24.1	C	31.3	C	33.0	C
SSS is Side Street Stop control BOLD values are Levels of Service in excess of LOS D										

TABLE 15
YEAR 2040 FUTURE PLUS PROJECT PEAK HOUR 95th % QUEUES

#	Intersection	Lane	Storage (feet)	AM Peak Hour				PM Peak Hour			
				Year 2040		Year 2040 Plus Project		Year 2040		Year 2040 Plus Project	
				Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)	Volume (vph)	95 th % Queue (ft)
1	Big Bear Blvd / Stanfield Cut-off Rd	EB left	140 ¹	150	180	153	240	320	285	325	320
		WB left	70	40	90	40	80	30	75	30	70
		NB	-	130	165	132	175	170	190	173	195
		SB left+thru	60	30	60	30	60	30	60	30	60
5	Big Bear Blvd / No Access	SB left	-	-	-	18	35	-	-	38	50
		WB	220	-	-	14	35	-	-	42	55
6	Big Bear Blvd / So Access	SB left	-	-	-	2	<25	-	-	4	<25
		WB	260	-	-	14	35	-	-	40	100
3	Big Bear Blvd / Interlaken SC	NB left	110 ¹	70	95	70	80	90	130	90	135
		SB left	150 ¹	40	65	40	85	50	95	50	90
4	Big Bear Blvd / Fox Farm Rd	NB left	60 ¹	50	75	50	70	160	185	160	190
		SB left	90 ¹	100	140	101	140	50	125	53	155
		EB left	50	130	90	134	90	270	80	276	80
		WB left	50	210	90	210	90	140	90	140	90

¹ turn lane is followed by a TWLT lane.

BOLD is 95th % queue that exceeds storage by 20 feet or more

ACCESS / INTERNAL CIRCULATION EVALUATION

This analysis section summarizes an investigation of the adequacy of site access and internal circulation as it relates to:

- Feasibility of full access to Big Bear Blvd (SR 18)
- Need for Right Turn Lanes
- Driveway Throat Depth
- Truck Circulation

Big Bear Blvd (SR 18) Access Feasibility

The feasibility of full access at this location is based on consideration of these issues:

- ***Precedence on Big Bear Blvd (SR 62)***

Left turns might not be allowed if Caltrans or the City of Big Bear Lake have regularly limited access under similar circumstances as a matter of policy. In this case, it does not appear that there are any locations where left turns onto the highway have been physically prohibited. This condition may result from snow removal requirements and the need to avoid conflicts between snowplows and raised islands.

- ***Striping requirements for legal left turns***

The current striping pattern on Big Bear Blvd provides a continuous TWLT lane. The current striping provides legal access to the site at each driveway.

- ***Left turn lane requirements for deceleration and storage length per the Highway Design Manual (HMD).***

HDM Chapter 4 describes the design of intersections, including assessment of requirements for storing waiting vehicles. For left turn lanes the necessary storage length is based on the 95th percentile queue lengths identified under long-term conditions. As noted earlier in Table 15, the south left turn 95th percentile queues approaching the project driveways is 50 feet or less under Year 2040 p.m. peak hour conditions.

The HDM Table 405.2B notes that distance required for deceleration to a stop at state highway intersections. This source indicates that 315 feet is required for the 40 mph speed limit on Big Bear Blvd (SR 18) but that this requirement could be reduced appreciably if it is assumed that it is permissible for traffic to slow in the through travel lane before entering the left turn lane. Up to 20 mph of deceleration outside the turn lane is allowed in the HDM.

The sum of deceleration and storage based on queuing is 355 feet at 40 mph. As there is no access to the west side of SR 18 in the area of the two driveways, this distance is available at the driveways.

- ***Potential conflicts with Traffic at Existing N. Sandalwood Drive intersection.***

Measured centerline to centerline the N. Sandalwood Drive intersection will be roughly 160 feet from the proposed southern driveway, and the storage area between the two will be about 100 feet long. The issues associated with this distance have been considered.

The length of southbound queues at the N. Sandalwood Drive intersection has been identified. If the current stop sign control remains, the projects 95th % queues are 80 to 100 feet long under Year 2021 conditions with the Grocery Outlet Store, and shorter in the year 2040. The available storage can accommodate anticipated queuing without blocking the driveway. While deceleration could extend through the Grocery Outlet Store driveway, this activity would not cause an appreciable conflict because relatively little project traffic is expected to turn left in the site at the south driveway.

The relative alignment of the south driveway and N. Sandalwood Drive creates the situation where westbound left turns out of the Grocery Outlet and eastbound left turns out of Grocery Outlet occur concurrently. Typically because each motorist would be turning at about 25 mph, the distance between intersections satisfies the minimum sight distance requirement at that speed (i.e., 150 feet). However, if each motorist attempts to make a two-step left turn using the TWLT lane, they could be competing for the same space.

- ***Future Conflicts with Traffic at N. Sandalwood Drive intersection***

As noted in the discussion of Year 2040 conditions, it may be necessary to change traffic controls at the Big Bear Blvd (SR 18) / N. Sandalwood Drive intersection in the future. A traffic signal, roundabout or left turn prohibition may be implemented. Each would present issues for the southern Grocery Outlet Store access.

If a traffic signal was installed, then the southern driveway would likely be within the limits of a southbound left turn lane striped at the traffic signal. If a traffic signal is installed, then access to the Grocery Outlet Stores southern driveway would need to be limited to right turns only.

If a roundabout intersection was installed, then the southern driveway would be near the limit of the splitter island created to channel southbound traffic into the roundabout. The extent to which left turn access at the southern driveway is permitted would need to be determined when the roundabout is designed.

If outbound left turns were to be physically prohibited at the N. Sandalwood Drive intersection then the effect on access at the project's southern driveway would depend on the nature of the feature installed to preclude left turns. If the limit is simply signed, then there is no effect. If a

“pork chop” island was installed in the N. Sandalwood Drive approaches to SR 18, then access to Grocery Outlet Store would also be unaffected. The final design of a raised median in the TWLT lane at N. Sandalwood Drive may affect site access. However, any feature that requires a raised treatment on SR 18 could interfere with snow removal and may not be approvable.

Based on these considerations, it is possible that outbound left turns onto Big Bear Blvd may need to be prohibited in the future, but no limitation is needed when the project opens. Consolidating left turns at the northern driveway would increase traffic at that location, but resulting traffic volumes on the exit will remain below the minimum requirements under peak hour warrants (i.e., less than 100 vph), and the approach would be long enough to address on-site queuing.

- ***Sight distance for exiting traffic at the Grocery Outlet driveways***

The HDM notes sight distance requirements for vehicles entering the state highway. Table 201.1 indicates that motorists need to be able to see an approaching vehicle at 40 mph when it is 300 feet away. Because the project site is along a horizontal curve, the line of sight looking right from the southern driveway and the view looking left from the northern driveway crosses over property that is outside of the current pavement section and right of way for SR 18. Today the topography in this area blocks the line of sight. The project proponents anticipate on-site excavation to provide a line of sight satisfying the 300 foot requirement at each driveway in both directions.

Conclusions. The two project driveways will satisfy applicable design standards for sight distance with proposed improvements, applicable guidelines for deceleration will be met and no change to current striping patterns are needed. Because of the southern driveway’s proximity to the N. Sandalwood Drive intersection, possible traffic controls at that location could require that outbound left turns be prohibited at this driveway in the future as the area west of SR 18 develops. However, no limitation is recommended under opening day conditions.

Right Turn Lanes

The extent to which the project’s driveways might require separate right turn lanes has been considered based on precedence at other locations on SR 18 and the volume of traffic turning right at each location.

Review of Big Bear Blvd indicates that separate right turn lanes have not been installed at any driveways. At some locations the roadway has been widened to accommodate transit bus pull-outs, but that feature would not be needed in this case because transit stops are already available east of the project. A separate right turn lane is provided at the signalized Big Bear Blvd (SR 18) / Interlaken SC intersection where more than 100 right turns per hour occur. At the project, 40 right turns are anticipated in the p.m. peak hour at the southern driveway, and the estimate would be minimal at the north access (i.e., <5 vph).

Because the number of right turns at the project access will be low, separate right turn lanes are not recommended.

Driveway Throat Depth

Available Throat Depths. The length of the throat at each driveway has been assessed to confirm that waiting vehicles do not extend back into the site and block the path of entering vehicles, which in turn could affect traffic on public streets. Review of the current site plan indicates that the throats at each driveway are very long. The northern driveway has a 220 foot long throat and the southern driveway throat is 260 feet. In comparison, the 95th percentile queues at each location are 80 to 100 feet.

Assessment. These throat depths have been compared to projected 95th percentile queues. At each location the projected queue is much less than the available throat, and the design is adequate.

Truck Circulation

The path of delivery trucks through the Grocery Outlet Store site is governed by the orientation of the loading dock which is located on the north side of the building and faces easterly. Trucks will enter at the southern driveway and back into the dock. Exiting trucks would then proceed to the northern driveway. Truck deliveries typically occur twice a week during off peak hours.

Review of the site plan reveals that the project can provide the aisle width needed to accommodate this truck route. Trucks may use the breadth of each driveway when entering or exiting the site. This is typically acceptable since deliveries would be expected during off-peak hours when opposing on-site traffic would be minimal. While it will be necessary to confirm the design requirements at each driveway with regards to truck turning radii, the truck delivery route appears acceptable.

SUMMARY OF RECOMMENDATIONS

1. No specific improvements are required to address CEQA impacts. The proposed Grocery Outlet Store project should contribute to implementation of long-term multimodal circulation system improvements by:
 - Paying traffic impact fees adopted by the City of Big Bear Lake
 - Installing frontage improvements required by the City of Big Bear Lake
2. No changes to current striping on Big Bear Blvd are required.
3. Full access at each driveway is feasible, but the City of Big Bear will need to consider the southern driveway when and if new traffic controls are installed at the N. Sandalwood Drive intersection in the future.
4. The final site plan should include applicable turning radii for delivery truck access.

APPENDICES
(under separate cover)

Traffic Counts
Traffic Model Plots
Level of Service Calculations
Simulation Results

APPENDIX F

**BUNKER
AFFIDAVIT**

AFFIDAVIT

State of California
County of San Bernardino
City of Big Bear Lake

BEFORE ME, the undersigned authority, on this day, June 9, 2020, personally appeared Henry L. Godwin, who being by me duly sworn, on oath deposed and said:

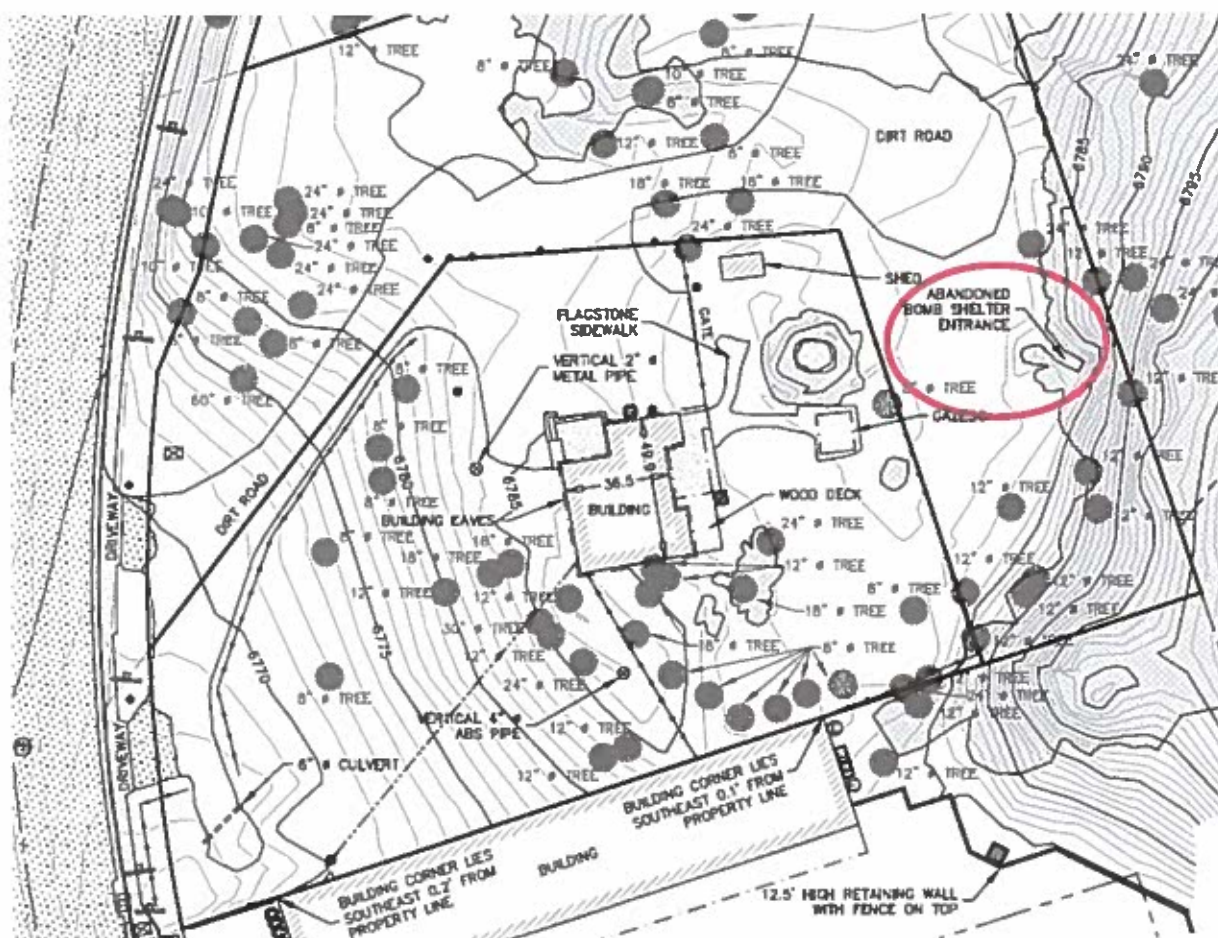
1. My name is Henry L. Godwin. I am at least eighteen (18) years of age and fully competent to make this affidavit. I have personal knowledge of each of the matters stated herein.
2. I am the son of Dr. Bernard E. Godwin, M.D., deceased. My father was the owner of the property located at 42175 Big Bear Blvd., Big Bear Lake, California. For many years our family lived in the home on the site. Through multiple transactions over the years, the property has come into ownership of the current owners, J.P. & Debra Montero Family Trust, J.P. & Debra Montero, Trustees.
3. Having been on the property many times, I have personal knowledge of the property and of various improvements my father had made to the property.
4. In or around 1962 during the Cuban Missile Crisis, Dr. Bernard E Godwin contracted with an individual named John George to excavate and construct a bomb shelter close to the eastern edge of the property. The shelter's location is shown on the attached Exhibit A.


Henry L. Godwin

SUBSCRIBED AND SWORN TO BEFORE ME this 9th day of July, 2020

Notary Public in and for The State of California

EXHIBIT A



CALIFORNIA JURAT WITH AFFIANT STATEMENT

GOVERNMENT CODE § 8202

- ☒ See Attached Document (Notary to cross out lines 1-6 below)
☐ See Statement Below (Lines 1-6 to be completed only by document signer[s], *not* Notary)

2
3
4
5
6

Signature of Document Signer No. 1 Signature of Document Signer No. 2 (if any)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
 County of San Bernardino

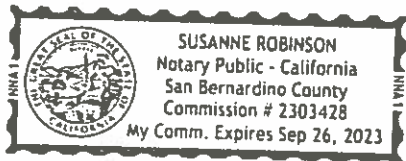
Subscribed and sworn to (or affirmed) before me
 on this 9th day of July, 2020
 by Henry L. Godwin
 Date Month Year

(1) Henry L. Godwin

(and (2) _____),
 Name(s) of Signer(s)

proved to me on the basis of satisfactory evidence
 to be the person(s) who appeared before me.

Signature [Signature]
 Signature of Notary Public



Seal
 Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Affidavit Document Date: June 9, 2020
 Number of Pages: 2 Signer(s) Other Than Named Above: _____